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DIESEL RAILWAY TRACTION SUPPLEMENT

The November issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, now ready, price* 1s.

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and facilities for such dispatch.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:
Mondays to Fridays 9.30 a.m. till 5.30 p.m.
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Organisation of Industry

A COMMITTEE of the Federation of British Industries, which was appointed to review the best type of industrial organisation on the economic and commercial side for dealing with post-war problems, has now issued its report to the Grand Council which has adopted it and forwarded it to the President of the Board of Trade. It is interesting to note that the Chairman of the Committee was Sir Charles Bruce-Gardner, who has now joined the Board of Trade as Chief Executive for Industrial Reconversion. The Committee believes that after the war there will be a need for close co-operation between industry and the Government, which will be improved through adequate organisation in industry by trade associations. In its view, associations are needed which not only will be able to represent the views of, and formulate general production and commercial policies for, the sections of industry which they cover, but which will also take the lead in improving and adjusting the technical and commercial organisation of the sections concerned to meet post-war circumstances. From the national viewpoint, the Committee finds that the ideal would be that the Government should confine itself to producing a framework of national economic policy, and leave the details to be filled in by working associations provided by the industries themselves.

Railway Supply Industry's Lead

Many of the steps advocated in the Federation of British Industries' report have been taken already by the group of trades which together comprise the railway engineering supply industry. The export groups of the various sections of this industry, ranging from locomotive builders to the makers of springs, already have brought into being a joint committee, which deals with matters of policy and common interest to all members of the constituent undertakings. Rather more than 120 individual firms are members of the groups, and in the aggregate they represent an important proportion of the country's potential export trade. This joint committee was set up as long ago as June, 1942, and is believed to have been the first of its kind. The value of organisations of this sort will be increasingly important from now onwards, by reason of the need to deal with such problems as the orderly resumption of normal production and trading, demobilisation, the liquidation of surplus stocks, the re-equipment of factories, and so forth. The closer integration of groups of industries on these lines, without loss of identity by individual undertakings is an outcome of war conditions which should make for greater unanimity on matters of policy than has been possible in the past, and should help towards ensuring that the Government is informed on the needs of traders.

Future Trends in the Electrification of Railways

The presidential address delivered by Mr. W. S. Graff-Baker before the Institution of Locomotive Engineers at its meeting in London on October 26, was notable in many ways. In it, the President allowed himself complete freedom to express his personal views on many highly controversial points in the electrification of railways, He made no attempt to conceal his preference for the third-rail system of current collection as opposed to the overhead wire, and advanced a number of logical and convincing arguments in support of his views. As to the choice of voltage, he again firmly expressed his liking for the "lower" voltage, that is, around 650-750 volts, rather than the alternative voltage of double that amount. Although the address as a whole was the work of an enthusiast in electrification, it will cheer lovers of the steam locomotive to read the notable tribute paid to this form of traction by so staunch an advocate of electric railways. There was a refreshing freedom from old conventional ideas when Mr. Graff-Baker turned his attention to rolling stock design. His reminder that "comfort" in travel involves many factors—not merely softness of seating accommodation, but "comfort" in lighting, noise level, colour, ventilation, and smoothness of riding—was a word in season to those who will be responsible for the design of our post-war passenger stock, for on their appreciation of this important fact much of the success of future rail travel in this country will depend.

Staff Welfare for Railwaymen in Eire

Until a few weeks ago the employees of the Great Southern Railways Company on the regular wages staff enjoyed no benefit of any pension scheme on a contributory basis, and, in the case of sickness, the company did not make any payment. Small *ex gratia* pensions were granted by the company on retirement, and these were reduced by the amount of the Old Age Pension when the recipient reached the age of 70. Provision for sick benefit existed through the Government National Health Insurance and through voluntary membership of benefit societies, but

the regular wages staff was far from well served in the matters of sickness and age retirement. Last June, the Great Southern Railways Company decided to put into operation a scheme of benefits for employees whose applications for membership were accepted by the company. Employees were asked to fill in a form of application and return it to the heads of their departments not later than June 30, and the scheme was put into operation on August 1. Full details are given this week on pages 435 and 436, as it is felt that many railway administrations throughout the world will be interested. Both male and female employees between the ages of 20 and 50 are eligible for the full pension scheme, which becomes effective at 65 for males and 60 for females; no reduction is proposed in regard to Old Age Pension. Members are required to contribute to the cost of the scheme, but the company will bear the balance. The cost of sickness benefit is borne entirely by the railway, but members of other societies allowing such benefit during illness are automatically barred from this scheme. New employees will be required to join the pension scheme as a condition of employment, and will be included in the endowment assurance scheme if eligible.

A Swiss Railway Centenary

The Strasbourg-Basle Railway, which was the first line to enter Swiss territory, was inaugurated on June 15, 1844. We read in the June, 1944, issue of the Swiss *Bulletin des Chemins de Fer Fédéraux* that the first three locomotives were built by Sharp, Roberts & Co. Ltd., of Manchester, and were of the inside-cylinder 2-2-2 type, with outside frames raised to accommodate the driving axle and a boiler having a dome placed well forward. Two brothers, Nicolas and Edouard Kœchlin, who were then textile spinners at Mulhouse, became interested in the Strasbourg-Basle Railway; they were quick to see the possibilities of the situation and determined to inaugurate locomotive-building works in Alsace, and to cease to be dependent on Great Britain and Belgium, then the chief countries supplying locomotives to Western Europe. Thus the engineering firm of André Kœchlin & Company, of Mulhouse, came into being. Their first locomotives followed the Sharp, Roberts type exactly. It is interesting to read that at that time a tender locomotive cost 50,000 fr.; the English machines were stated to be cheaper in their price at the works, but the cost of transport to Alsace made the total cost of the latter approximately equal to that of the local product. Some excellent models of the early rolling stock, of every variety, have been placed on view at a centenary exhibition at Basle.

Classification of U.S.A. Passenger Vehicles

For many years the Association of American Railroads, and its predecessor organisations, have taken all practicable steps to secure concerted policy and action among the many railway organisations on the North American continent, and, in regard to the classification of passenger train equipment, there is a well-recognised list of definitions and designating letters, adopted originally in 1910 and revised in 1942. A passenger train car is defined as a car suitably built to operate in passenger trains, with the characteristics of having a passenger type of truck, passenger brake, air signal, and steam train line. The designating letters consist of a combination of two or more letters of which the first indicates the class, and the subsequent ones sub-divisions. There are seven classes, namely, Class "B," the various forms of baggage vehicles; Class "C," combined vehicles, such as baggage and passenger or baggage and kitchen; Class "D," dining and other forms of refreshment vehicle; Class "E," electric stock; Class "M," mail vehicles; Class "P," passenger stock (including sleeping cars); and Class "I," instructional vehicles. These designations apply also to vehicles having articulation at one or both ends. If desired, a small letter "e" can be placed after the larger designating letters to indicate electric lighting, a small "g", for gas lighting, and a small "o" for oil lighting. It is also permissible to include in the official classification figures showing the approximate length of vehicle. Joint service rates, and *per diem* rates for hiring are normally based on these classifications.

Transverse Fissures in Rails

The Tenth Progress Report of the Joint Investigation of Fissures in Railway Rails, for which the University of Illinois, the Association of American Railroads, and the U.S.A. Rail Manufacturers' Technical Committee are jointly responsible, affords renewed assurance that controlled cooling of rails is a complete safeguard against the development of shatter-cracking and transverse fissures, on condition that the steel itself is sound to begin with. Details are given of the causes of failure, on 16 different railways, of 61 rails manufactured from 1935 onwards, all of which had been subjected to controlled cooling or Brunorising treatment. Out of these, there were only 8 in which transverse fissures, developed from shatter-cracks, were the cause of fracture, and all of these had been Brunorised; no controlled cooled rail failed in this way, except two traced to carelessness in the cooling. In 13 of the rails transverse fissures had developed from blowholes in the steel; in 19 cases rolling overlaps, laminations, and other skin defects were responsible; slipping engine driving-wheels had burned 6 rails sufficiently badly to cause fracture; welding had caused 3 rails to fissure; and a variety of other manufacturing causes, such as slag inclusions and piping, claimed one or two rails each. In two cases fractures had been caused by cracks spreading from the right-angled corners of bolt-holes. It is stated in the report that this is a complete list of rail breakages of controlled cooled rails recorded in a full year between December, 1941, and November, 1942, and though control of cooling only began on an extensive scale in 1935, it is evident that already the results in eliminating transverse fissures have been revolutionary.

End-Hardening of Rails

That there are certain risks attaching to the heat treatment of the running surfaces of rails at the joints, to reduce rail-end batter, is evident from a study of a recent University of Illinois Bulletin, reviewed on p. 423. Altogether some nine different methods of hardening have been under review in a main-line test which has included 100 examples of each type. A curious feature of this test, not applying to every method of hardening, but seen in the average results, is that the running-off ends of the rails have lost more by battering than the running-on ends, though this effect has been due in part to differences in level of the original running surfaces. A disquieting feature of the test has been the extent to which weeping or spreading cracks have formed in the hardened zones; after the passage of 174,500,000 tons of traffic over the test length, 84 of the 900 joints have been found to be affected in this way, and due to the excessive battering so caused, it has been necessary to build up 54 of these joints by welding; in all of the last-mentioned the heat treatment had included a water quench. Among recommendations arising out of this test, one is that the running surface of new rails at the joints should be bevelled at the ends in order to counteract the flow of the decarburised surface of the steel that is likely to take place, forming a kind of bridge over the joint gap, and a likely starting-point of cracks; another is that the Brinell hardness number of the treated steel at the rail-end should not exceed 400.

The Decimal Classification of Transport Literature

Beginning with the January issue in the present year, which reached us only recently, the *Nordisk Järnbanetidskrift* adopted the decimal system of classification to cover the articles appearing in its pages. Our contemporary is in its 70th year and, although it had to suspend publication for a time in 1940, after the Germans invaded Denmark, it was able to resume and continue without further interruption. It is the official organ of the Northern Railway Association, which includes the managements of the Swedish, Norwegian, Danish, and Finnish State Railways. Articles are printed in the language of the country of origin, except in the case of those from Finland, for which Swedish is used. The editor's office is in Stockholm. The decimal classification now used is based on the proposals made in America in 1876 by Melvil Dewey, as developed by the International Institute of Bibliography, founded at Brussels in 1895. Under the influence of L. P. A. Weissenbruch, Secretary of the International Railway Congress Association, it was employed in that association's Bulletin from 1897, but did not find the general support in the transport world that, in his enthusiasm for it, he had envisaged so confidently. The *Revue Générale des Chemins de fer* adopted it, and so did a few specialised transport libraries and indexes. The catalogue of modern works at the Science Museum, with its index to the contents of articles and papers, is classified on the decimal system.

Reducing American Wartime Travel

The Office of Defense Transportation of the United States, in its attempts to eliminate non-essential travel in war conditions by the cancellation or limitation of conventions, has set a good example by refusing to send representatives to conventions or similar gatherings if such appearances involve travel. The O.D.T. has also sent a circular letter to 1,500 leading industrial concerns urging their co-operation in a programme for the reduction of unnecessary travel, including cancellation of convention attendances, reduction to a minimum of business travel, elimination of pleasure trips, confinement of Pullman reservations to specific business needs, and support of all plans for holidays at home. As yet, the response falls far short of what the O.D.T.

desires. During the month of May no fewer than 74 trade shows and conventions were arranged in New York alone. Another line of approach by the O.D.T. to the public has been through Mayor La Guardia of New York, who is President of the United States Conference of Mayors, seeking the co-operation of the 600 cities represented on the Conference in reducing civilian traffic to the utmost degree possible. Also the O.D.T. has not hesitated to request the Government to "take firm measures" to secure the immediate curtailment of all travel by Government representatives which is not a matter of urgency in present conditions.

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Taking Water at Speed

The speed at which water is taken from track-troughs varies to some extent with the railway concerned. Hitherto in this country it has not been generally customary to reduce the speed of express trains for this purpose, though, at speeds above about 40 m.p.h., which is the critical speed for maximum efficiency in the picking-up operation, there is a tendency for an increase in the proportion of the water scattered at the point of the scoop to that actually lifted into the tender. Some years ago the London Midland & Scottish Railway made a study of this problem, with the aid of cinematography, and as a result varied the design of its scoops in such a way that spillage of water was reduced considerably, and the efficiency of the scooping, particularly at higher speeds, was increased proportionately. On page 425 we give details of similar re-design of scoops, on the New York Central System, whereby the speed at which maximum efficiency of scooping is attained has been raised to 75 m.p.h., and by which it has been found possible at this speed to lift over 7,100 gal. of water from a trough with an effective scooping length of 1,700 ft., representing an increase of 48 per cent. over the amount raised with the previous standard scoop. At the same time spillage has been reduced by 64 per cent.

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Signalling for the Norte Electrification

The introduction of electric traction on the former Norte lines of the Spanish national system, from Madrid to Avila and Segovia, necessitated certain alterations to the automatic and semi-automatic colour-light signals in service between Madrid and El Escorial. These signals work on the 3-aspect principle; the green light is used for caution and the yellow for clear, to conform as nearly as possible to the practice obtaining with the mechanical signals, in which white is still used as the clear indication. The length of the block sections has not been altered, but the a.c. track circuits, operated on the polarised principle with 3-position relays, have had resonant bonds added. It was considered desirable to retain this system and take additional steps to safeguard the working against the risk of a breakdown of the insulated joints, ordinarily covered by the practice of reversing the polarity of successive sections. An additional track circuit, one rail long, has been installed at the dividing point between each two sections, the impedance bonds of which are joined across it, with a relay set to work only to two positions. The signal lights are now controlled by this relay and the previously existing one applying to the main section immediately in advance. Should current of false polarity by any means reach the additional relay it can only hold it over to the red position and maintain the section ahead blocked.

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Take Your Seats for the Train Sessions

It is the aim to make railway termini like towns in miniature, with shops, postal facilities, and often a cinema. An interesting extension of the idea is a recent development reported from the Patna—Gaya section of the East Indian Railway, where another convenience of modern society is provided on certain trains in the shape of two "lock-up" coaches for delinquents, with a travelling court-room attached. Travellers without tickets (and they are said to be numerous) are thus able to answer for their offence before a magistrate in the course of their journey, a system with advantages on both sides compared with the delays and anxieties of giving their own (or somebody else's) name and address to the collector and waiting for a summons. So far in Great Britain we have not gone further than displaying posters setting forth typical penalties that have been imposed for travel offences. The story of what happened to an anonymous person found travelling in a first class carriage of the Southern Railway with a third class ticket must have been read by thousands waiting at Waterloo, and even London Transport chimes in at intervals with reports of retribution on desperadoes who have cheated the board of three-ha'pence or so. How much more effective would these narratives be if after the war the summons to "take your seats for the train sessions" became as familiar as the call to the first lunch.

Indian Railways £239,250,000 Post-War Plan

SIR LAKSHMIPATI MISRA, Engineering Member of the Indian Railway Board, has been entrusted, on behalf of the Board, with the task of preparing plans for post-war development. A programme of construction of new lines, and replacement of lines dismantled during the war, has been laid down, and of the total mileage of about 14,000 surveyed or proposed, it is considered possible within the next few years to undertake the construction of 5,000 miles. The plan provides for an annual programme of 500 miles, spread over a period of ten years, at a total cost of approximately Rs. 100 crores, or some £75,000,000. The full basic plan, to which some reference was made in our issue of October 6, will call for an expenditure of Rs. 319 crores, or £239,250,000, in the first seven years of the post-war period. Of this amount rehabilitation will require Rs. 125 crores (£93,750,000); operating improvements Rs. 45 crores (£33,750,000); staff welfare Rs. 48 crores (£36,000,000); revision of third class amenities Rs. 45 crores (£33,750,000); and construction of new lines Rs. 56 crores (£42,000,000).

It is proposed to establish workshops for the manufacture of locomotives for India, and steps are being taken to begin building as soon as possible at the Kanchrapara workshops, with a production capacity of seventy broad-gauge locomotives a year. The possibility of making use of another workshop is being examined, and the question of increasing the production capacity of the Ajmer workshops for the manufacture of metre-gauge locomotives is under consideration. Negotiations are proceeding with a private undertaking for the manufacture of boilers in India, and, if a satisfactory arrangement can be reached, it is expected that boiler manufacture will be established in India before the end of the war. The average requirements of goods wagons for annual replacements are estimated to be 4,000 for the broad-gauge railways and 700 for the metre-gauge railways. The wagon building industry is considered to be well able to step up production to these figures.

It has been estimated that relaying and replacement of track, including rehabilitation arrears resulting from the war, will require approximately 125,000 tons of rails for about 800 miles of primary relaying. A further secondary relaying of 600 to 700 miles is considered possible with the use of the rails released by the primary relaying. The capacity of rolling mills in India is put at 140,000 tons a year. The balance of 15,000 tons a year should be sufficient for additional track mileages required for improvement works.

Sir Lakshmipati Misra is reported from New Delhi as having said that with an addition of 5,000 miles of new railway, no place of any importance need be more than 25 miles from the railway, except, of course, in the hills or desert. In his view, an addition of 5,000 miles would meet India's needs.

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The Revival in British Diesel Building

THERE is every indication of a considerable extension of diesel locomotive use, both in this country and abroad, and there can be no doubt that it is of great importance to the British locomotive industry that Great Britain should be able to supply up-to-date locomotives of proved quality to fill these needs and so maintain British prestige. The recent wartime years have yielded much interesting data of diesel locomotive performance abroad; in many countries these vehicles have been carrying on with the minimum number of spare parts available and they have come through a time of stringent test with remarkable records and reliability. Many locomotives supplied by British builders just before the war have been working continuously and little has been heard of them. Reports that have been received, however, as to their operation are all extremely satisfactory.

As is shown in the current issue of *The Railway Gazette, Diesel Railway Traction Supplement*, among the British undertakings which, at the present time, is steadily increasing its output of diesel locomotives is the Hunslet Engine Co. Ltd. This company was fully engaged on meeting war requirements during the first three years of the war, but in 1943, in common with all other locomotive undertakings in Great Britain, it was turned over to locomotive production, when locomotives themselves became a war requirement. During the whole of 1943 it was fully engaged on production of the well-known 0-6-0 "austerity" shunting locomotive, but, with increasing production of this type by other builders, it has been able to turn its attention to other locomotive requirements which have also become urgent. At the

present time this company's diesel locomotives are in demand, both in Europe and the Far East. Its output of diesel locomotives is increasing monthly, and these are in addition to numerous pre-war types which are being produced this year. A number of new standard types, all of which have to meet important war requirements, also are being built. Among these in the standard-gauge range are some 100 h.p. 21 ton 0-4-0 locomotives for the Admiralty, and 200 h.p. 27 ton 0-6-0 types for the Mersey Docks & Harbour Board and Sir Robert McAlpine & Sons. Oil and coal requirements are also calling for diesel locomotives, and considerable numbers of locomotives over 100 h.p. are in production, apart from numbers of new designs in production for underground mining work. The range of Hunslet products is considerable, for it covers shunting locomotives up to 600 h.p. and main-line locomotives of well over double this power, and embraces a wide variety of main- or branch-line duties for all gauges.

Great Britain's Loss of Exports

ALTHOUGH the statistics recently issued by the Board of Trade relating to Great Britain's exports in wartime may indicate confidence that the war has moved sufficiently near to its close to enable figures of this kind to be released without fear of giving damaging information to the enemy, it cannot fail to show how serious is the position into which the nation's trade has shrunk. Put briefly, Great Britain's export trade has diminished from a volume of approximately £470,700,000 in 1938 to £232,227,746 in 1943. Last year's figure represented but 2·8 per cent. of our net national income, compared with 10·2 per cent. in 1938. Moreover, although the figures for the current year are not disclosed, there is every reason to believe that the downward trend has continued. By 1943 nearly three-quarters of this country's pre-war export trade has been sacrificed to the needs of the war effort and a considerable proportion of the exports which are recorded are not truly commercial. Eliminating the effect of the rise in prices (the 1943 level was 71 per cent. over that of 1938) in 1940 and 1941 exports were only 73 per cent. and 56 per cent. respectively of those in 1938, and they included exports of munitions, which were large in 1941. Excluding munitions, exports in 1942 and 1943 were 36 per cent. and 29 per cent. respectively of the 1938 figure. It should also be borne in mind that exports in 1938 were rather low; those for the previous year were 13 per cent. higher. The following table in millions of £s shows the volume of exports for each month of 1938 to 1943 inclusive.

£ Million

Month	1938	1939*	1940*	1941*	1942	1943
January	41·2	39·5	41·1	23·9	23·9	15·1
February	37·6	38·1	37·4	25·9	26·7	17·1
March	42·2	41·6	41·5	30·0	21·5	20·4
April	37·3	35·1	48·3	29·2	26·5	19·9
May	38·2	42·3	45·5	24·8	24·7	20·1
June	36·9	39·9	36·2	27·4	22·0	20·9
July	37·5	40·4	31·2	31·6	26·3	23·9
August	36·3	37·1	32·6	26·7	20·7	22·4
September	39·8	23·1	31·2	27·6	19·8	17·4
October	42·6	24·6	23·4	34·0	20·0	16·4
November	42·9	37·4	21·7	47·1	20·0	19·9
December	39·1	40·2	24·4	37·5	17·2	18·7
Corrected total for year ...	470·8	439·5	411·2	365·4	269·5	232·2

* Including shipments by Government Departments of aircraft and other vehicles (except tyres and tubes for road vehicles) and arms, ammunition and military and naval stores

Of the various sections of products, of which some broad indication is given in the Board of Trade statement, exports of metal goods, as was to be expected, have fallen very sharply. The volume index for the metal groups was only 28 in 1942 (based on 1938 as equal to 100), and by 1943 it had fallen to 23. These groups, which include both raw iron and steel and manufactures of those metals, railway materials, electrical goods and parts, machinery of various types, and vehicles, including locomotives and parts, rail motor vehicles and parts, wagons, and so forth, amounted to £176,000,000 of United Kingdom exports in 1938, or rather less than half the total volume of exports of manufactured articles. The proportion had fallen by 1942 and 1943 to about one-third. The greatest reductions in volume were for vehicles (excluding military vehicles) and iron and steel, which fell to one-tenth of pre-war in 1943. Exports of machinery, which in 1938 constituted the largest metal group, fell by over two-thirds between 1938 and 1943, but this reduction would have been much larger had it not been for supplies of machine tools, electrical equipment, and so forth sent to Russia.

The position disclosed by the Board of Trade announcement is sufficiently grave to demand the most urgent steps being taken to deal with a situation which has serious implications from the viewpoint of the country's wellbeing in the post-war years. A far more vigorous approach to the problem than any which has yet been apparent, must be made if this country is to maintain its standard of living and is to employ its people and its productive capacity at a reasonably high level after the war. In the House of Commons on October 19, the Secretary to the Department of Overseas Trade stated that reports dealing with the general prospects of United Kingdom goods in particular markets were under continuous revision so that when the time came for their issue they would be as up-to-date as possible. He added that discussions had taken place during the last fifteen months between the Department and the executive committees of about 140 export groups and trade organisations on problems connected with the re-starting of export trade. That is a very small step in the direction of re-starting Great Britain's exports.

Sir George Schuster, M.P., stated publicly at a luncheon in London of the American Chamber of Commerce, on October 20, that British industrialists were "frightened" by the Board of Trade and its apparent failure to give manufacturers a lead and an opening. At the present time there is an urgent need of a clear statement of policy by the Government as to export trade, and some indication that more than lip service is being paid to the solution of the problems involved. Many important manufacturers of export goods should be ready shortly to commence trading with overseas countries. The figures issued by the Board of Trade prove beyond question that this time cannot be too soon. If Great Britain is late in re-developing export trade, the effects may be felt for years. Sir Charles Bruce-Gardner, who has joined the Board of Trade as the President's Chief Executive for Industrial Reconversion, has an immense task before him. It is not too much to say that on the solution which is applied to the problems will depend the prosperity of this country, not only for this, but for succeeding, generations.

Applied Research

THE respect in which Dr. H. R. Ricardo is held by his fellow mechanical engineers was amply demonstrated on October 20, when he delivered his presidential address before the Institution of Mechanical Engineers at its headquarters in Westminster. Although the majority of his hearers were persons interested in internal-combustion engines, there were many who had come simply because they knew that an address by Dr. Ricardo would be stimulating, provocative, and rich with the fruits of practical experience and sound judgment.

Choosing as his subject "Applied Research," Dr. Ricardo outlined the essentially different outlook of the fundamental research worker from that of the applied research worker. The former neither was pressed for time nor limited by expediency, whereas the applied research worker might often find himself racing against time and forced to compromise. To be successful, the applied research worker must have a vivid imagination, but experience, sound judgment, and common sense were more important than scientific eminence. It was not surprising to find Dr. Ricardo more in sympathy with applied than with fundamental research. In a penetrating survey of the relations between research and industry, he pointed out existing faults in the views all too frequently held on either side, and entered a powerful plea for a closer *rapprochement* between the scientific and the commercial interests. He had little use for the pursuit of scientific abstracts unrelated to present-day realities; and he uttered a pungent criticism of the tendency of some research workers to present their findings in long-winded and inconclusive reports. The research worker, he said, "would stand a far better chance of seeing his work turned to useful purpose if he reported it in plain colloquial English, setting out clearly the conclusions to be drawn, the practical advantages to be gained, and the risks to be run." Dr. Ricardo summed up his attitude by asking two questions: "Of what use is research at all but to benefit the community?" and "How can it benefit the community except through some practical application?" Into

those words he distilled the very essence of the Institution of Mechanical Engineers, as expressed in its Royal Charter, and as exemplified in all its activities from its inception nearly 100 years ago.

One of the most fascinating parts of the address was that containing the intimate personal record of Dr. Ricardo's first ventures into the realm of engineering. These took place in his school days. At the age of twelve he attempted the construction of his first steam engine, and before leaving Rugby he had inspired his housemaster with feelings of the deepest anxiety over the conversion of a push bicycle to motor cycle "by the addition of a home-made two-cylinder uniflow steam engine and a coal-fired fire-tube boiler, made of very thin copper reinforced by wire winding." But it was when studying at Cambridge for the Mechanical Sciences Tripos that he showed promise of his true capacity for applied research; and there he was fortunate in meeting Professor Hopkinson, who not only proved a great inspiration to the young engineer, but also showed a keen perception of his pupil's capabilities, for Hopkinson invited him, after his first year, to assist him in some researches he was about to undertake into the internal-combustion engine.

So began the work which started Ricardo on his outstanding career, and enabled him to contribute so much to the solution of the problem of detonation, which represented then one of the greatest obstacles to the progress of petrol engines. The many notable developments—combustion-chamber design, the sleeve valve engine, the light high-speed diesel engine, and the early high-pressure fuel pump—connected with his name came later, after his firm had been established at Shoreham. But it is the rare combination of scientific training with practical outlook, developed during his association with Hopkinson, that has carried him to success and has made his name one that will be remembered as long as the internal-combustion engine endures.

Dr. Ricardo looks forward to a future in which he feels that, although the development and initial exploitation of ideas must be left to private enterprise, the State should (when success has been established) play its part in finding, controlling, and ensuring markets for the new product. Fundamental research would be State-aided, perhaps under the ægis of the universities, and applied research would be carried on by industry. He defends his views by prefacing them with the observation that "the vast but inarticulate majority of our people are guided by kindly tolerance, good judgment, and an innate common sense which prefers intelligent compromise and the middle path to ideological extremes."

The Railways and Public Welfare

UNDER the title of "The Railroads and Public Welfare," Dr. Emory R. Johnson, Professor Emeritus of Transportation & Commerce, University of Pennsylvania, has written a big book* about the position of the American railways and their status after the war. To a greater degree than in this country, the prosperity and social welfare of the people depend in the United States on railway services. When the war ends, will it be possible for the Government at Washington to act on policies that will enable the railways to prosper and develop as a part of an efficient and well-balanced transport system? The author, taking care to avoid bias, surveys the railway and other transport problems in the hope that his book will help to find an affirmative answer to this question.

Dr. Johnson argues that the relation to each other of the different forms of transport—rail, road, water, pipeline, and air—should be fixed on four principles:—

(1) Each class of carriers may function where and as it can serve with greater efficiency and economy than its rivals.

(2) Free scope should be given, according to regulations prescribed by public authority, to the services of the several kinds of carriers.

(3) Competition between carriers should be regulated as to facilities, rates and practices so as to stimulate private enterprise and attract capital to transport undertakings.

(4) Government aid and regulation should treat all carriers with like justice and equity.

A policy of co-ordination and co-operation is strongly favoured. It is shown that America has been slower in moving towards that goal than Great Britain. Except in a few odd cases, American railways cannot run steamships; until 1935 they could not operate road passenger or freight services, and at present they are without general powers to provide air services.

The road-rail problem is no nearer a solution in America than it is here. One obstacle is the existence in the States of three major railway freight classifications. There is a growing body of opinion that the classifications should be unified and simplified. Dr. Johnson suggests the development at the same time of a standard motor freight classification that will enable road hauliers to secure the traffic they are best fitted to carry. The railway class rate schedules should also be modified, as the companies were steadily losing less-than-wagon-load traffic until the outbreak of war. The author is in favour of basing the rates of all carriers mainly on cost of service. He would have regulation of the charges of all carriers vested in the Interstate Commerce Commission which, in the course of a few years, might devise rates structures which would put the charges of the several modes of transport in their right relation. This, he admits, is "confessedly an optimistic hope."

We are told that the grouping of the United States railways into 15 or 20 large systems doubtless would be desirable, but the author has little faith in amalgamation as a means of stabilising the railway situation. He is more emphatic about setting limits to the cost of labour, which in 1940 represented 63·5 per cent. of railway operating expenses. Although not objecting to liberal pay and working conditions for railwaymen, he would abolish restrictive practices often encouraged by trade unions, settle labour disputes by compulsory arbitration, and make railway strikes unlawful.

Dr. Johnson is strongly convinced that private ownership of the railways is more economical and efficient than State management would be. He fears that under government ownership political influences would inflate operating costs and that the making of freight rates would become more difficult, if not too rigid for the needs of industry. His considered opinion is that the future success of the railways depends on the return of normal and unhampered business activity and a government policy of regulation framed on the lines enunciated above.

The book has been produced in a fashion which does not at all conform with our war economy standards. Printed in clear type on good paper, its pages are easy to read and we are grateful to the publishers because the author's style is rather heavy and prolix. Obviously Dr. Johnson has taken great pains to look at his subject from all sides, but there is a good deal of repetition in some of his chapters. The book would not have suffered from a rigorous process of pruning, but, in spite of these defects of redundancy, it merits careful study as a judicial piece of economic analysis.

* "The Railroads and Public Welfare," by Emory R. Johnson, M.L., Ph.D., Sc.D. Simmons-Boardman Publishing Company, 30, Church Street, New York. Price $3

The Institute of Transport Silver Jubilee

TODAY (November 3), the Institute of Transport is holding an anniversary luncheon to commemorate the Silver Jubilee of the founding of the Institute 25 years ago. A preliminary meeting had been held on August 7, 1919, at which a provisional committee was charged with the preparation of a constitution, but it was the meeting summoned by Lord Ashfield, at that time Chairman of the London Underground group of companies, which was held on November 3, 1919, which proved to be the first official gathering of the new Institute. This meeting, representative of all branches of transport, unanimously resolved that "An Institute be formed for the scientific study of questions relating to traffic and transport." Sir Eric Geddes, the first Minister of Transport, agreed to become the first President, and thus established a contact between the new Institution and the new Ministry; he gave his inaugural address on March 22, 1920. A great day in the history of the Institute was November 16, 1926, when it received full recognition by the grant of a Royal Charter of Incorporation. The membership of the Institute, which 25 years ago numbered 440, now stands at 5,800, and embraces most of the leading authorities in transport throughout the British Empire and wherever British-owned transport is operated. At the request of the Council, Mr. D. R. Lamb has written a Paper which has been published in brochure form outlining the beginnings and achievements of the Institute. We hope to make further reference to this Silver Jubilee next week.

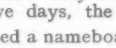
LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Names of Stations

12, St. John's Park, S.E.3. October 23

To the Editor of The Railway Gazette

Sir,—I see that you referred on the Scrap Heap page in your October 20 issue to Mr. Grasemann's letter to *The Daily Telegraph* on station nameboards. May I remind your readers that, in the bad old competitive days, the Midland Railway anticipated his objection, and used a nameboard of  design, with the name on both sides, visible to passengers travelling in each direction and from both sides of the compartment.

Perhaps I may also recall the Midland Railway's practice of exhibiting in the booking hall of country stations a framed ordnance sheet map of the district, though I must admit with regret that the publicity department of those days greatly lessened the map's utility by a wide red line (denoting the course of the Midland Railway) which obliterated many of the adjacent villages from the enquiring passenger's gaze.

Yours faithfully,

R. E. CHARLEWOOD

"A Protest at Railway Propaganda"

Holmewood, Wootton Bridge, I.O.W. October 24

To the Editor of The Railway Gazette

Sir,—It is rather surprising that Mr. Cecil J. Allen, in his entertaining examination of the signal so firmly exhibited against holiday travel, should have omitted to point out what was perhaps its most remarkable feature. This was surely the colour of the lower spectacle glass, which was green. Presumably this omission was merely because it could hardly have mattered in the case of this peculiarly-fixed signal what the colour was; but after all, if colours must be nailed to the mast, it is as well to first ensure that the correct colours have been selected.

I think you will find that deep blue is the fashionable shade in spectacle glasses showing the clear aspect on semaphore signals, although I believe the old North British Railway was an exception to this rule. It is hardly necessary to add that a better green light is obtained by the combination of yellow light shining through blue glass. The poster by the way corrected its earlier mistake in its second edition.

Yours faithfully,

G. L. NICHOLSON

[Signals fitted with green glass are still in use; the public for which the poster was designed is used to seeing green lights, and many would not understand an illustration showing a blue spectacle.—Ed. *R.G.*]

"Merchant Navy" Run to Kent Coast

H.M.S. *Osprey*, c/o G.P.O., London. October 15

To the Editor of The Railway Gazette

Sir,—On Wednesday, October 11, I was travelling to Herne Bay on leave. I arrived at Victoria in time for the 8.35 a.m. train for the Kent Coast. There was an air of suppressed excitement on Platform 2 from which the train was to leave. Elbowing my way through a considerable crowd of onlookers to the "head-end" I discovered the cause. None other than "Merchant Navy" 4-6-2 21C7 *Aberdeen & Commonwealth* was to work the train, and this was to be the first trip of one of these engines to the Kent Coast. Bowler-hatted Locomotive Inspectors there were in profusion, taking it in turn to look anxiously at the fire, at the water gauge, at the pressure gauge, or to get down to have a last final look round.

Promptly at 8.35 21C7 got under weigh, with a light train of eight bogies and two four-wheel vans. Most unfortunately, I had no stop-watch with me, but never in many years of travel on this line have I reached Grosvenor Bridge so quickly. A check to about 15 m.p.h. after Penge East, and we pulled up in Bromley South at 8.55 dead. Thereafter, having left Bromley at 8.59½, we fairly flew up the banks though downhill running was very restrained—particularly down Sole Street. A "caution" to 20 m.p.h. through St. Mary Cray, and another at the bottom of Sole Street Bank, were our only delays, and we were in Chatham by 9.26½.

Here the train divides, and it seemed almost an insult to such an engine to offer it but four coaches to take to Ramsgate. Suffice it to say that we were in Herne Bay at 10.9—six minutes early.

Throughout, our progress had been triumphant—slaters working on bombed houses, railwaymen of all shades of occupation and dignity, small boys, large housewives, all downed tools to watch our progress, and at Bromley South a most dignified covey of City Gents. on the up platform made a most undignified rush—bowler hats, morning papers and all—to the platform end to inspect and pass judgment.

But how pleasant it is, in these days of bulldozers and Spitfires, to find that our national characteristic—love of engines—is still so splendidly awake in so many diverse subjects of His Majesty. Let us hope that our C.M.Es will go on designing better and more efficient machines—21C7 and her sisters undoubtedly lead the way in British locomotive progress at present, but why, oh why, not a mechanical stoker? Even allowing for widely differing conditions, the American railways have still a great deal to teach us in design, construction, and operation.

I remain, etc.,

P. RANSOME-WALLIS,
Surgeon Lieut.-Commander, R.N.V.R.

Railways' Expenditure on Research

London, N.W.3. October 30

To the Editor of The Railway Gazette

Sir,—May I refer to the letter from A. J. P. in your October 20 issue? The railway companies send annual returns to the Ministry of Transport showing:—

(*a*) the number of locomotives renewed;
(*b*) the number of heavy and light repairs carried out; and
(*c*) the number of locomotives under and awaiting repair at the end of the year.

These returns are regarded as a reliable guide to the state of the locomotive stock and as covering important repairs. The improvement in the figures between 1923 and 1938 is highly creditable to the railways and shows conclusively that the number of unserviceable engines has been reduced. The question of shed repairs does not affect the argument, but presumably these do not keep engines out of traffic so long as they used to do in view of the modernisation of many depots since 1923.

One is glad to have the L.M.S.R. particulars quoted by A. J. P., but one company's results can neither confirm nor refute a criticism based on all-line figures. I am obliged to him for the trouble he has taken in answering the other queries raised in my first letter.

Yours faithfully,

STATISTICIAN

Names of Locomotives

5, Colston Parade, Redcliffe, Bristol 1. October 29

To the Editor of The Railway Gazette

Sir,—I have noticed in recent copies of *The Railway Gazette* correspondence on the matter of perpetuating the names of certain famous locomotives. Is it not more important for future generations of engineers, etc., that we should preserve examples of the locomotives themselves.

Probably after the war, quite rightly, there will be a wholesale overhaul of our main-line locomotive stock, the outcome of which will be the scrapping or entire reconstruction of such pre-amalgamation locomotives as are left, so that if we wish to keep any of them, steps must be taken soon after hostilities cease, or as in the case of *North Star* and *Lord of the Isles* it will be too late.

Models and drawings have been suggested as an alternative, but engineers will be much more interested in being able to study closely the workmanship and construction and material of the original than trying to puzzle it out from objects that cannot really portray it. This point will be especially the case with the diesel, diesel-electric, and electric trained men of the future, who will themselves use welding, drop-forged and prefabricated parts needing largely only semi-skilled labour.

If it is decided to preserve these machines then sentimentality must not be allowed, as it has in certain past cases, example the *Cornwall*, to keep locomotives which are only freaks or experiments and not good examples of their era.

In selecting the exhibit the following points might be useful. The engine must be: (*a*) a good example and typical of locomotive design of the period she represents; (*b*) she must be an example of her designer's work at its best; (*c*) as far as possible she must be in her original condition, or, if rebuilt, easily converted back to that condition if necessary; (*d*) if a goods or tank engine fulfil the above conditions better than an express engine then it must be selected in preference to the latter.

Of course, to go fully into such a problem in one or even many letters is impossible; in any case nothing can be done

until after the war, but let us remember that engines which are to-day ordinary to us, a hundred years hence will be objects of extreme interest and value to students, engineers and public alike, and we should be very selfish not to hand them on; in fact as selfish as former generations have been to us.

Yours faithfully,
J. R. M. THOMAS

British Railways and Tourists

2A, Queens Road, Kenilworth,
Nr. Coventry. October 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Referring to the article "British Railways and Tourists" in your October 27 issue, reviewing the article by Sir Evelyn Wrench in *The Spectator*, you make the statement that a modern station does not attract traffic. Surely this is refuted by the experience of the L.P.T.B. and the Southern Railway, which have done more than most companies in this country to improve and modernise their stations.

A bright, clean, modern station with amenities such as cheerful-looking waiting rooms and attractive refreshment or dining rooms with, for the larger ones, washing and haircutting facilities, arcades of shops, etc., must act as an inducement to use the railway rather than a competitive form of transport.

Many British stations that I could name, and, no doubt, your readers could add to the list, have the opposite effect and appear more as the fitting prelude to a journey to the nether regions, with their grimy, gloomy and forbidding appearance. Without going to the length of building cathedral-like edifices, why not try the Continental method of grouping station facilities in one compact centrally-heated building rather than scattered piecemeal over several platforms. After all, the station is the railway shop window and should be treated as such.

Yours faithfully,
L. BUROW

[The test of additional expenditure on railway stations, beyond the utilitarian purpose of embarking and disembarking passengers and goods, is surely whether it can be justified on the basis of return on the capital involved.—ED. *R.G.*]

Flat-Bottom Track

London & North Eastern Railway,
H.Q.1 (*via* Hitchin). October 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was interested in the editorial entitled "Flat-Bottom Switches and Crossings" in the October 20 issue of *The Railway Gazette*, although I might argue one or two points referred to therein. The main point I think at the back of the minds of Mr. Wallace and myself is to get a track which is stiffer both in a vertical and lateral plane which will give better running for high-speed units.

Yours sincerely,
J. C. L. TRAIN,
Chief Engineer

Publications Received

South Africa on Service.—This attractive and well-produced brochure which was printed in the Union of South Africa by the Government Printer, Pretoria, 1943, has now been issued by the Publicity & Travel Bureau, South Africa House, London, W.C.2. It contains a foreword by the Right Hon. J. C. Smuts, Prime Minister, and a message from the Director-General of Supplies, Dr. H. J. van der Bijl. The 80 pages of excellent pictures and descriptive matter are interesting, and show how South Africa contributed to the success of the allied campaign in North Africa.

The Railroads and Public Welfare: Their Problems and Policies. By Emory R. Johnson. New York 7, U.S.A.: Simmons-Boardman Publishing Corporation, 30, Church Street. 9¼ in. × 6¼ in. × 1 in. 336 pp. Price $3.—Dr. Johnson is Professor Emeritus of Transportation & Commerce of the University of Pennsylvania, and one of the best-known writers on American railway operation. In this book he traces the course of American railway development, analyses its wartime problems, and discusses measures necessary to promote sound progress in the post-war era.

(*See editorial article page* 421)

University of Illinois Bulletin. Tenth Progress Report of the Joint Investigation of Fissures in Railroad Rails. The University of Illinois, Urbana. 15 cents.—This Bulletin, reprinted from the Proceedings of the American Railway Engineering Association, carries a stage further the investigation which was first directed to the cause and cure of the transverse fissure in rails. The second part of the Bulletin is devoted to an examination of all the rails which failed on American railways in the year ended November 30, 1942, or after seven years' experience of controlled cooling, and shows that out of 61 failures, only 8 had broken by reason of transverse fissures developed from shatter-cracking, all of which had been subjected to Brunorizing, and not the normal method of controlled cooling. The great majority of the remaining failures could be traced either to defects in the steel itself, irrespective of cooling, or to damage caused by slipping engine-driving wheels. The first part of the report is devoted to an experiment conducted on the main line of the Chesapeake & Ohio Railway with nine different varieties of end-hardening of rails, with a view to the reduction of batter at the joints; 100 examples of each method, 900 joints in all, have been under trial, and have now carried 174,500,000 tons of traffic. A disturbing development, which has now affected nearly 10 per cent. of the joints, has been the growth and spread of what are called "weeping cracks" in the hardened zones, in all cases in rails in which quenching with water formed part of the hardening treatment. Editorial comment on both halves of the report is given on page 418.

The Inter-Relation of Age-Hardening and Creep Performance. Part II—The Behaviour in Creep of an Alloy containing 3 per cent. Nickel and Silicon in Copper. By C. H. M. Jenkins, D.Sc., A.R.S.M.; E. M. Bucknall, M.Sc.; and E. A. Jenkinson, M.Sc. Extract from the Journal of the Institute of Metals, London, 1944, volume 70.—This pamphlet describes the creep characteristics of a copper-rich alloy which is capable of marked age-hardening when subjected to raised temperature. The actual composition of the wrought-copper alloy under test included 2·4 per cent. of nickel and 0·6 per cent. silicon, and different thermal treatments were applied to bring about age-hardening of the alloy, and to make possible a survey of its properties under the influence of either age-hardening or age-softening within limits of temperature ranging between 15° and 625° C. According to temperature, the stress-resisting properties of the alloy vary widely with different heat-treatments; in long-time tests between temperature limits of 230° and 600° C., fully age-hardened material is considerably inferior in strength to fully softened material, but in short-time tests the opposite holds good. It has been found that in the 300° to 500° C. temperature range, rupture of tensile and creep specimens results from the development of intercrystalline cracks, but that at lower temperatures trans-crystalline cracks are formed. The earlier assumption that an age-hardening treatment which produces maximum hardness will also result in good resistance to deformation has been disproved in this research.

Aluminium at War. By W. C. Devereux, F.R.Ae.S. Reprinted from *Metallurgia*.—Some 100 years ago, when Wohler produced his first malleable bead of aluminium, he had probably but little idea of the enormous industry which was to follow in the wake of his initial developments and of the vitally important rôle his new metal would play in shaping the destinies of mankind. In 1938, the world production of aluminium was approximately 4,130,000 tons: this country occupied only ninth place in the list of producers and third amongst consumers. We were not endowed with high quality bauxite and our hydraulic-power resources were limited. The fall of France in 1940, with consequent loss of her bauxite supplies, did not ease matters and the British aluminium alloy industry was faced with a gigantic problem in providing great extensions and new plants, the reorganisation of technique and methods, the development of new materials to meet the needs of engineers for stronger and still stronger light alloys, and the training of personnel. How successfully the light-alloy industry did its job is borne out in Mr. Devereux's statement that "the British Aluminium-alloy industry may justly claim a share in the tributes which have come, from friend and foe, to the fine aircraft which the R.A.F. has used so magnificently in this war." It is not in aircraft alone that aluminium alloys have proved invaluable; in all branches of engineering their lightness, strength and resistance to corrosion are vital factors, and intensive scientific research has made their application possible in the transport, packing, chemical, electrical, in fact in practically all manufacturing industries engaged in the war effort.

Accessories for Arc Welders.—We have received from the Lincoln Electric Co. Ltd., Welwyn Garden City, Herts, a 28-page booklet describing and illustrating a complete range of welding accessories essential for the safety and efficiency of arc-welding operators. This booklet is pocket-size and is a companion volume to the "Weldirectory" listing Lincoln electrodes.

The Scrap Heap

I believe in free enterprise—and always have.

I believe in the profit system—and always have.

I believe that private enterprise can give full employment to our people.

I believe in exceptional rewards for innovation, skill, and risk-taking by business.—*President Roosevelt.*

* * *

The number of officials engaged whole-time in the collection and administration of income tax and surtax, excess profits tax, the national defence contribution and war damage contribution was 33,600 at September 30, 1944. The estimated cost of their salaries for the year ending March 31, 1945, is £11,200,000.

* * *

"It is not a question of the mandarins of Whitehall imposing their bureaucratic will upon a reluctant business community; quite the reverse. Interference and regulations are almost always the request of industrialists themselves."—*Mr. Dingle Foot, Parliamentary Secretary, Ministry of Economic Warfare.*

* * *

CLOSED CARRIAGES FOR THE WINTER

Edinburgh and Glasgow Railway.—We observe, from the notice in another column, that during the winter months the second class carriages are to be closed in by means of windows as in the first class carriages. This will be an immense improvement and highly conducive to the comfort of the passengers.—*From "The Scotsman" of October* 19, 1844.

* * *

An L.M.S.R. employee suggested to the company that waste calcium carbide from acetylene lamps was an excellent substitute for whitewash. The suggestion was adopted, and awarded, and the result is that this waste mixed with salted water to prevent flaking is now used to whiten platform edges. It dries whiter than whitewash. This is but one of the 2,500 suggestions received from L.M.S.R. staff since the outbreak of war.

DOVER TRAINS.

A correspondent inquires why it is that the Dover trains never now stop at the New Cross Station, as formerly. A great inconvenience is occasioned thereby to the populous neighbourhoods of Lewisham, Lee, Woolwich, Charlton, Greenwich, Deptford, etc., as persons wishing to proceed by the South-Eastern line are obliged to go to, or from, the Bricklayers' Arms Station at an additional, and, as it appears, an unnecessary expense for carriage tolls and hire.—*From "The Railway Times" of September* 21, 1844.

* * *

RAILWAY GUARD ON THEFT CHARGE

A L.N.E.R. passenger guard was remanded at Southend recently accused of stealing four registered letters from a mailbag in transit between Liverpool Street and Southend. He was said to have been caught with nine £1 notes, which the letters had contained, hidden in his socks. The bag was placed in his brake-van. It contained the registered letters all addressed to fictitious persons in Southend, and they were missing when the train arrived at its destination.

* * *

RAILWAY STORY

I have the following story on the best authority. Perhaps it has a moral for railway stockholders. Anyhow, it is true.

On one of the long-distance trains recently there was the usual crowding. A Canadian officer and his wife got in. The train moved off, and they pushed along the corridor looking for seats in the first class. They found a compartment where there was one seat, but with a small dog (the pampered sort) sitting on it with a little case behind. Its owner was a stout woman, very fussy. Opposite was a Naval officer and two others.

The Canadian opened the door and, looking at the dog, politely asked if the seat was vacant; but the fussy woman grumpily said, "It is the dog's seat." The Canadian said nothing more but, after a pause, simply lifted the dog and put it on the floor and the bag in the rack. Then he beckoned his wife, installed her in the seat and went back to the corridor. The woman became pink, expostulated, and the dog began to yap, becoming a nuisance, whereupon the sailor, without a word, picked it up and dropped it through the window!

A first-rate fracas followed.

The guard was sent for. After the woman had expostulated with him he asked her to let him see the dog's ticket. Then it transpired that there wasn't one. "Well," said the guard, "in that case I must assume there was no dog," and with that he took himself off down the corridor. Before the atmosphere had cooled, the Canadian slid open the door, looked at the sailor, and said quietly: "Thanks, Navy, but I still think you put out the wrong ———!"—*Lex* in *"The Financial News."*

* * *

AN INTELLIGENT CHILD

Mr. H. Langford Lewis writes: "I am a regular reader of *The Railway Magazine*, but occasionally, when I have time, I look into the Patent Office Library and spend a little time reading the file of *The Railway Gazette* (among other publications) so as not to miss anything of interest. I think the following story quite suitable for your Scrap Heap—it has amused many who have heard it.

"After a stay at Hereford I returned to Paddington and home a fortnight ago. The train was well filled from the start and a big crowd got in at Worcester. A family came into my compartment, including a small boy of the working class apparently in charge of his grandmother, who told me, when I asked her, that he was 5 years old. He stood at the open window all the way to London, and made remarks which for acute intelligence in observation beat anything I had ever heard from a small child. On Worcester platform he noticed a man in a curious brown uniform, and said 'Italian prisoner.' Quite correct. Coming into Oxford, near Yarnton we saw a long freight train drawn by a U.S.A. 2-8-0 'austerity' locomotive. The boy saw it and said 'Yankee train.' 'Quite right' I said. Between Cholsey & Moulsford and Goring we ran into a deepening chalk cutting. The boy thought we were going into a tunnel and said 'Tunnel—put window up.' But there was no tunnel. Passing the Thames, near Reading, he saw swans on the river, and said 'Ducks!' 'No!' I said, 'swans.' Passengers who heard him were astonished.

"I noticed one thing he was not old enough to appreciate. At Kingham there was a large new set of sidings laid with heavy f.b. rails on concrete sleepers. I wondered how they were fastened. The G.W.R. is moving with the times."

* * *

TAILPIECE

(Nameboards are to be restored at stations)

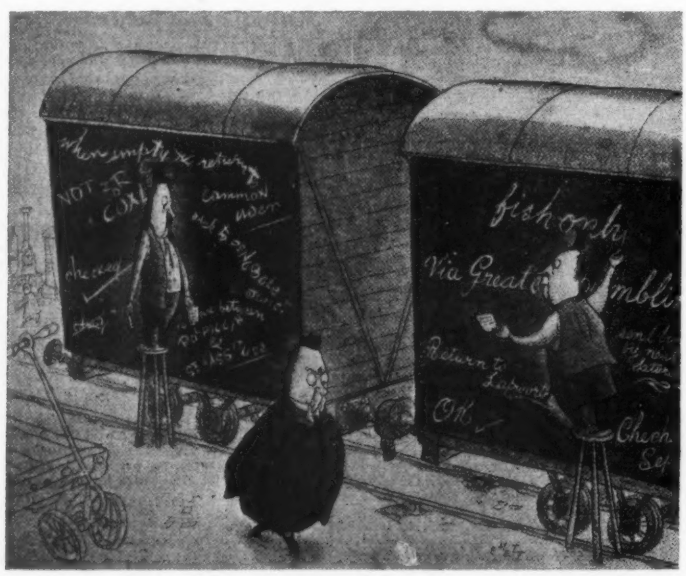
What is this joyful news we hear
  Mid shouts of acclamation?
The nameboards are to reappear
  At every railway station,

And those who found—by luck or guess—
  Their rightful destination,
Will heave a sigh of thankfulness
  To *see* their true location.

For one thing more we make request:
  That porters far and near
Should have a weekly diction test
  For accents crystal clear.

We'd train content to So-and-So,
  So sure that eye *and ear*
Would show us where we need to go—
  Instead of Wigan pier.

A. C.



". . . 'e says very poor—rub out, do again and see 'im after six . . ." (Reproduced by permission of the proprietors of "Punch")

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

VICTORIA

New Cremorne Bridges

Reference was made in *The Railway Gazette* of April 21 last to the intended replacement of the present Cremorne Bridges over the Yarra River at South Yarra. Preliminary boring for testing purposes now has taken place, and work has been started on the new Cremorne Bridges, which will consist of three separate superstructures on a common substructure. They will carry six railway tracks, instead of four; will be 448 ft. long, practically double the present length; and will cost, it is estimated, £335,000.

The present bridges comprise one span of 148 ft. over the river and two spans of 41 ft. covering the roadways on either side; but the new bridges will be of five spans—two of 80 ft. and three of 96 ft. Plate girders with concrete deck will be used in the superstructure, and the substructure will be of mass concrete piers supported by concrete pillars founded on Silurian mudstone.

The construction of the bridges will provide employment for a period of from two or three years for about 150 to 200 persons, comprising labourers, skilled labourers, platelayers, and several classes of skilled tradesmen. In present conditions the staffing of the job is difficult, but all available suitable labour is being concentrated on this work, and less urgent works are being slowed down or postponed.

Reconstruction is necessary, not only for railway, road and river considerations, but because it will make possible an extension towards Melbourne of the quadruple track from Caulfield, which now becomes double track at South Yarra.

NEW ZEALAND

Locomotives for Tasmania

Four further "Wf" class 2-6-4 tank locomotives have been sold by the New Zealand Government Railways to the Tasmanian Government Railways Nos. 381, 385, 436, and 437 left New Zealand in 1939; Nos. 392, 405, 431, and 434 have now followed.

Conversion of "A" Class Pacifics

The conversion of the "A" class Pacifics from four-cylinder compound to two-cylinder simple propulsion is proceeding steadily. Of the total number of 57 of these locomotives (all built between 1906 and 1914), more than 30 have been so converted since 1941.

Railway Construction in the Hutt Valley

Work was begun early in June on an extension of the Hutt Valley railway, a double-track branch which leaves the Wairarapa main line half a mile north of Petone, is at present 2·6 miles long, and penetrates the more thickly populated areas of the valley. From the present terminus, Waterloo, to which point traffic has been worked since May, 1927, the immediate goal is Nae Nae, 4·2 miles from the junction and 11·2 from Wellington, but an early completion of the line to Taita, 12·8 miles from Wellington, appears to be contemplated. Stations on the branch will be Ava (7·8 miles), Woburn (8·9 miles), Waterloo (9·6 miles), as at present, and Epuni (about 10·4 miles), Nae Nae (11·2 miles), and Cemetery Road (about 12 miles). The immediate traffic will be mostly suburban passengers, but this line appears to be intended eventually to become the main route to the Wairarapa, a further extension of about 3½ miles from Taita to Silverstream, a station on the original line, being necessary to achieve this result. Preparations were begun some years ago for the duplication of the present line between Silverstream and Upper Hutt, so that, when all these schemes come to fruition, there will be double track for 20 miles out of Wellington on this main line.

UNITED STATES

Scooping Water on the New York Central

Recent changes in the design of its tender water-scoops has made it possible for the New York Central System to authorise the taking of water from troughs, by engines so fitted, at speeds up to 80 m.p.h. The old scoop had a deep mouth, and was reduced to a minimum cross-section of 69 sq. in. at the first joint behind the mouth; as a result, there was a tendency for the water in the trough to be pushed forward as a wave in advance of the scoop.

In the new design, which also has two flexible joints, the scoop extends into the trough at a relatively flat angle, and has a cross-section enlarged to 104 sq. in., which continues uniformly through the delivery pipe into the tender. Whereas the maximum efficiency of the old scoop was developed at 45 m.p.h., the new scoop is most efficient at 75 m.p.h. On a trough 2,000 ft. long, with an actual scooping distance of 1,700 ft., a test at 60 m.p.h. showed that the new scoop picked up 6,953 gal., or 42 per cent. more than the old standard scoop; whereas at 75 m.p.h. the amount taken was 7,113 gal., an increase of 48 per cent. Further, the amount of water spilled during the operation was 1,938 gal. at 60 m.p.h. and 1 520 gal. at 70 m.p.h., reducing by 54 and 64 per cent., respectively, the spillage with the old scoop.

Compressed air is used for lowering and raising the scoop, and since these experiments the provision of quick release-valves in the air-lines has so speeded up the lowering and lifting that the maximum amount of water it is possible to lift probably has been increased by a further 600 gal.

Difficulties Overcome

The higher speeds of lifting have revealed certain risks, due to the violence of the water-flow, of damage to the train or passing trains in the event of water pouring over the tender top when the tank is completely filled and the scoop has not been raised in time. Also, the tests proved that, at speeds over 80 m.p.h., the pressure was sufficient to burst open the cistern cover and release a solid column of water. This difficulty has been met by providing each modified tender with seven pairs of vents each 6 in. dia., along each side of the top of the tender tank, leading down to outlets, inclined towards the track at 45 deg., through the bottom of the tank; the delivery arrangements into the tank also have been altered in such a way as to spread the flow of water on reaching the tank top. A 600-gal. auxiliary overflow reservoir is located above the tender water space and at the back of the coal space. The cistern cover is provided with an inner counterweighted trap door, which acts as a check valve against pressure from within, when water is being taken from troughs, but opens under the pressure of the water when it is taken from a water column.

The 12-wheel tenders concerned, which are applied to the latest "L-4A" and "L-4B" 4-8-2 locomotives, accommodate each 15,200 gal. of water and 42 tons of coal. (*See editorial note, page* 419).

ARGENTINA

National Transport Board

As was briefly recorded in *The Railway Gazette* of October 13, a recently-issued Government Decree has created the National Transport Board, to function as a dependency of the Ministry of Public Works, by the amalgamation of the National Co-ordination of Transport Committee and the National Railway Board. Article 1 of the Decree states that the new board shall be composed of a president, general secretariat, the National Railway Board, and five other boards (legal affairs, transport planning, commercial and financial, motor transport control and national defence, and shall form part of the Ministry of Public Works). Article 2 lays down that the faculties and powers of the National Transport Board are those which Laws Nos. 2873, 5315 and 12,346 confer on the National Railway Board and on the National Co-ordination of Transport Committee, and in particular those which Decree No. 6465/44 grants to the President of the latter. Article 3 states that Article I of Law No. 12,346 thereby is annulled, as are all rulings in the said Law and in Laws Nos. 2873 and 5315 which are in opposition. Article 4 provides that the present National Railway Board, pending the organisation of the National Transport Board, shall function as heretofore, with the faculties and powers conferred on it by Laws Nos. 2873 and 5315, and their regulatory decrees.

New Transport Legislation

Article 5 orders that, within ninety days of the publication of the present Decree, the National Transport Board shall submit to the Executive Power for its approval the plan of organisation, together with the corresponding budget. Article 6 states that the National Transport Board thereby is charged with drawing up new transport statutes, to replace the present diversified legislation, and a plan of organisation of the Transport Secretariat; these to be submitted to the Executive Power, the latter through the Secretariat of the National Defence Council, within one hundred and eighty days of the publication of the Decree. Article 7 provides that the Ministers of War, Marine and Public Works (by the last-named through the National Board of Navigation & Ports), shall designate, respectively, an advisory delegate to study the plan referred to in Article 6. Article 8 provides that, to facilitate the organisation of the new body (without prejudice to Article 6), the Minister of Public Works, at the suggestion of the National Transport Board, may effect the necessary reorganisation and partial amalgamation of the offices belonging to his department. Article 9 states that each of the bodies which, in accordance with Articles 1 and 8, become part of the National Transport Board, shall do so with its present budget and special accounts.

Looking Forward

*Presidential Address by Mr. W. S. Graff-Baker, M.I.Loco.E., before the Institution of Locomotive Engineers**

THE steam locomotive as we know it is a machine with certain physical limitations and certain detrimental features. It is limited in power by the loading gauge, and in efficiency by the relatively limited temperature range. It has detrimental effects on track and structures due to the extreme difficulty—or even impossibility—of obtaining a mechanical balance at varying speeds, and in this connection it is only proper to observe that the track and structures are as essential parts of a railway as the locomotive. With these difficulties, the fact remains that the steam locomotive is a magnificent machine, and has done more for the cause of civilisation than any other effort of the mechanical engineer—far more than the internal-combustion engine, which now seems to have a heavy debit as well as a credit entry in its balance sheet.

The steam locomotive has been constantly improved over the years, but it seems possible that we may have arrived at the stage when improvement becomes "asymptotic"—when the value of the improvement is negligible compared with the extra cost in money, time, or complication. The turbine or high-speed steam engine driving the road wheels by gears may perhaps offer some improvement in balancing, or the condenser some improvement in temperature range, but either may require as much development as a locomotive on some other principle than steam operation, and either deals only with a part of the problem.

Smoke and noise in cities at least, if not everywhere, have come to be regarded as wrong. The most efficient use of coal has become a matter of national as well as of commercial importance. These considerations tend to force the issue of discontinuing the consumption of raw coal for any purpose other than the generation of electricity or the production of gas, coke, or other distillation products or by-products.

Alternatives Available

Two alternatives for traction on rails appear to be available, each with some considerable background of experience. These are (i) the use of the internal-combustion engine with electric transmission, and (ii) the direct electrification of railways. It seems as yet a little doubtful if the compression-ignition or any form of internal-combustion engine provides the prerequisite of quietness in towns, and the exhaust gases from heavy-oil engines are neither agreeable nor always smoke-free. The diesel locomotive with electric transmission—and no other adequate form of transmission seems available—is an expensive and heavy machine, using, as it does three full-size power plants—the engine, the generator, and the motors. Nevertheless, the diesel-electric locomotive—or perhaps the diesel-electric train unit (if new passenger stock is contemplated at the same time as the locomotive)—must be regarded as one approach to this new world of rail traction which we may be entering. The other approach is by the electric locomotive or the electric multiple-unit train.

The electrification of the British railways has been given much consideration in the past. There have been published in recent years the report of the Railway Electrification Committee (1927), the Order of the Minister of Transport (1932) confirming the recommendations of the first-mentioned report as a regulation, and the report of the Committee on Main-Line Railway Electrification (1931), known as the Weir Report. Certain aspects of electrification referred to in these reports, however, seem to require fresh consideration: the costs of coal and equipment have risen, new technical developments have taken place, and the question of whether electrification is to be carried out on a single or on a dual standard must also be decided.

Southern Railway Progress

On the Southern Railway electrification has expanded very considerably, and now forms by far the major main-line electrification in the country, operating 1,675 track miles, or 29 per cent. of its total mileage, excluding sidings, electrically; 60 per cent. of its passenger train-miles are run with electric traction. This extension of electrification has been carried out as an extension of the original 650-volt d.c. third-rail system, with satisfactory results. It is generally understood, however, that the other main-line railways propose to adopt the 1,500-volt overhead system. The conditions governing this leaning towards the 1,500-volt overhead system have changed in the last few years, especially in view of developments in the interim.

These developments are: first, the practical experience gained in the construction and operation of mercury arc rectifiers, eliminating the large substation with its rotating machines and attendants. Second, a war has taken place which has made man-hours and foreign exchange into very valuable commodities—in this case because of their bearing on the amount of copper needed for overhead conductors. Third, it was considered impossible to provide continuous contact between locomotive and conductor rail at crossovers; loss of contact has usually meant loss of tractive effort. Lately, however, the Southern Railway has constructed an electric locomotive embodying a new and bold technical conception which combines, in a variable-speed control system by motor-generators, the use of flywheels driven thereby, which provide the necessary energy to carry the locomotive over current rail gaps of the dimensions normally met with.

There are other aspects of the choice of current collection systems. Though the overhead wire may be less affected by climate than the current rail, the modern use of battery-fed control circuits goes far to overcome difficulties with the current rail under all but extreme conditions, when even the overhead wire might ice up. An overhead conductor admittedly leaves a free track for the permanent-way engineer; but though a third rail may make permanent way more expensive—though this is doubtful—there is a saving in not maintaining the supporting structure for the overhead wire. Moreover, the structures do not make the siting—or sighting—of signals easy. Finally it is doubtful whether an overhead system in wartime would withstand blitz conditions to the extent the third-rail system has done; and it is questionable whether a breakdown crane could be operated under overhead wires and structures.

As to rolling stock, the lower voltage is more satisfactory: with the higher voltage all control equipment must be locked up for safety, whilst with normal-sized motors the higher voltage necessitates their arrangement in series, two or more in a group, so that with the usual series-parallel control at least four motors must be dealt with as an indivisible unit, and many eggs become placed in one basket. Finally, the higher voltage necessitates more motor insulation, which uses up valuable space—and therefore weight—unproductively.

A considerable part—and the most profitable—of passenger car mileage is run in suburban services, where the multiple-unit train is the obvious form. Space on such trains is valuable, and the provision of high-tension compartments wastes passenger space. Designs should be avoided which involve two two-motor bogies on one car, or even two motors on one bogie. In this direction the effect of the vehicle on the track is important; for one must visualise a railway as a whole, of which both rolling stock and track are each a part.

Existing main-line electrification at 650 volts is regional, and cannot be a commitment for the whole country. No deep commitment to 1,500 volts exists either. Is not the present, therefore, the time when we could usefully review the whole affair, and bring our ideas and figures up to date on the basis of the mercury arc rectifier with remote control—contrasting the low- and high-voltage systems on the basis of the known cost of the former and probable cost of the latter, and comparing the mechanical and electrical features of each system in the light of recent developments relating to the requirments of practical railway operation and good appearance?

The Weir Report visualises three stages in railway electrification: first, the suburban heavy service, obviously ripe for electrification; second, the main-line services, suitable in various degrees; and third, the branch line services possibly commercially unsuitable for electrification.

Stages Envisaged

As the advantages of electrification decrease, the case for the diesel-electric or the retention of the steam locomotive improves. The job cannot all be done at once and first things should come first. There would seem to be a case for—

Stage 1: electrifying suburban services plus such parts of the main line as present clear advantages;

Stage 2: gradually replacing main-line steam locomotives on unelectrified portions by diesel-electric locomotives, using the gradualness of the change to gain technical and operating experience;

Stage 3: gradually electrifying the remainder of the main lines by sections, applying the experience gained under stages 1 and 2;

Stage 4 concurrently with 1, 2 and 3:—

(*a*) abandoning branch lines and substituting road transport;

(*b*) developing specialised branch line vehicles and motive power units;

(*c*) continuing the use of steam locomotives on branch lines, or a combination or selection of any or all of these according to circumstances.

What form is the passenger rolling stock of the future to take? There are two kinds of vehicles generally used: saloon cars and compartment coaches.

(*Continued on page* 428)

* Abridged. Delivered on October 26

An Engineering and Traffic Achievement

Some of the results of the flying-bomb damage to Cow Lane Bridge, Peckham Rye, Southern Railway

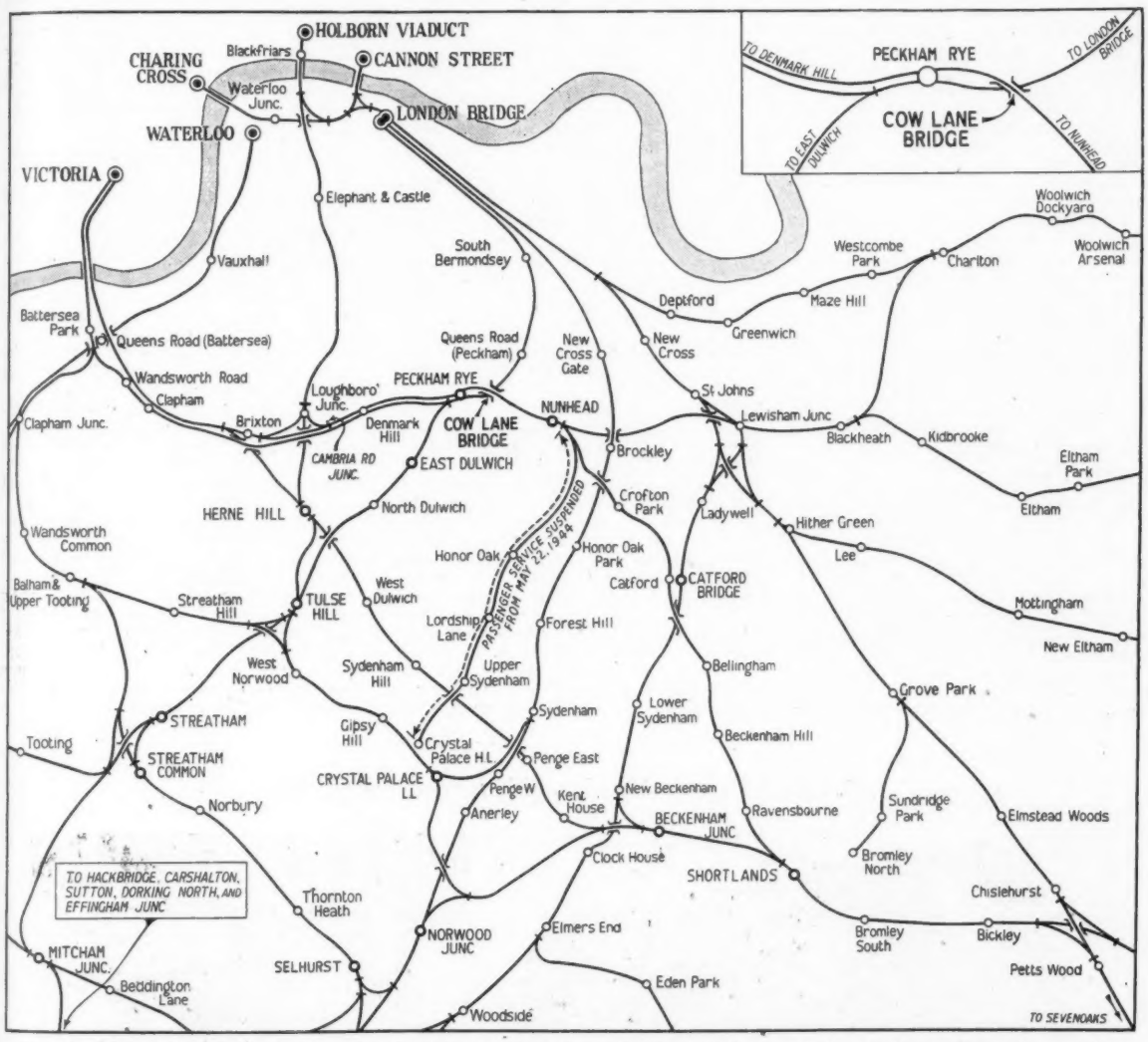
IN the vast majority of cases of damage to railway properties resulting from the fall of flying bombs, it was found possible to restore traffic within a matter of a few hours, but the destruction of Cow Lane Bridge, Peckham Rye, was in a somewhat different category, as the resultant delays totalled 9½ days. The whole operation provided an excellent example of close co-operation between the Civil Engineering and Operating Departments of the Southern Railway in difficult circumstances, and is worthy of more detailed attention than most of the flying-bomb incidents.

Cow Lane Bridge is the point to the east of Peckham Rye Station where the double line of the former London Chatham & Dover Railway from Holborn Viaduct to Nunhead is carried over the South London Line of the former London Brighton & South Coast Railway. At 7.20 p.m. on a Wednesday in July, the bomb fell close to the down line which passes under the bridge, making a shallow crater and destroying the permanent way of this line. The blast lifted the bridge and demolished the whole of the centre trestle with the exception of one stanchion supporting the main girder of one side of the structure. The bridge was left in a precarious condition, inasmuch as one end of the bridge had dropped off the abutment while the other was lodged at the edge of the abutment, and the centre of the bridge was partly held up by the one remaining stanchion. The high-level tracks and wheel guard timbers were partly suspended in catenary, as were also the several high-tension cables normally carried by this bridge. Some of the cables were broken but others were still in use. All lines were blocked.

The bridge is of the two-span continuous plate girder type approximately 110 ft. in length, with closely-spaced cross girders supporting wheel-guard timbers and timber decking. Except for some adjacent sidings, the lines carried by the bridge and those under it are electrified, on the third rail. It was imperative that the power supply carried by the undamaged cables should be maintained without interruption, and to this end a temporary timber bridge, in three spans on trestles, was erected on one side of the bridge, and the cables were carefully extracted from the wreckage and transferred to it. In addition, all but one of the broken H.T. cables were jointed and supported in this way.

In the meantime, it was possible only to clear some of the smaller debris, together with the wrecked trestle of the bridge, but a certain amount of cutting by oxy-acetylene flame of the main structure (floor members) was done. It was considered that the removal of the old bridge could best be undertaken after the bridge had been further demolished to ground level. This was undertaken by the Royal Engineers, who placed charges against the remaining stanchion of the centre trestle. This was only partly successful, as one girder at one end of the bridge did not fall clear of the abutment, as had been hoped.

The removal of the bridge proceeded throughout the next two days with the extensive use of oxy-acetylene cutting, and the main bulk of the ironwork was loaded



Sketch map of the passenger lines involved in the Cow Lane Bridge incident and the resultant alternative services

into trains by the use of steam cranes and removed from the site. In the meantime the design for a three-span temporary bridge had been completed, and materials prepared, using military-type trestling for the supports and 24 in. by 7½ in. rolled-steel joists to carry the tracks, with the whole structure carried on new concrete foundations and the existing abutments. It was necessary only to clear the latter of debris and prepare concrete beds for the waybeams. The bridge was erected with the use of a 10-ton crane operating from below, and a 36-ton steam crane working from the high-level lines. The whole operation took 9½ days, the work on the cables, the demolition of the old bridge, and the building of the temporary structure having taken 2, 2 and 5½ days respectively.

There is also an interesting story to be told of the complex alterations which had to be made in the train services as a result of the damage. The immediate result of the explosion was not only to block all lines at the bridge site, but also to sever the electric signalling supply current at Victoria Station, both Eastern and Central. This occurred at 7.20 p.m. but by 9.45 p.m. the same night the signalling current was restored at Victoria by carrying cables on the temporary timber bridge. On the morning of the day after the incident the following alterations were made :—

Between Peckham Rye and Nunhead

Business train services were :—

Sevenoaks and Holborn Viaduct service diverted *via* Beckenham Junction and Herne Hill, with some trains diverted *via* Beckenham Junction, Catford Bridge, and London Bridge to Holborn Viaduct.

Shuttle service worked between Holborn Viaduct and Peckham Rye, operating over the down line as a single line between Cambria Road Junction and Peckham Rye.

Shuttle service worked between Shortlands and Nunhead.

Special bus service operated between Herne Hill and Nunhead, calling at Denmark Hill and Peckham Rye.

After the business service the train service was :—

Sevenoaks and Holborn Viaduct service running between Holborn Viaduct and Peckham Rye (with single-line working over the down line from Cambria Road Junction), and between Nunhead and Sevenoaks, with a bus service between Nunhead and Peckham Rye.

Between Queens Road and Peckham Rye

London Bridge to London Bridge service *via* Norwood Junction, Selhurst, and Streatham Common, terminated at and returned from East Dulwich.

London Bridge to London Bridge service *via* Streatham Common, Selhurst, and Norwood, covered by the previous service, starting from East Dulwich.

London Bridge to London Bridge service *via* Forest Hill, Crystal Palace (Low Level), and Tulse Hill, terminated at and returned from East Dulwich.

London Bridge to London Bridge service *via* Tulse Hill, Crystal Palace (Low Level) and Forest Hill, covered by the previous service, starting from East Dulwich.

South London Line service ran between Victoria and Peckham Rye only.

Dorking North and Effingham Junction to London Bridge service, diverted *via* Streatham and Herne Hill to Victoria (Eastern), calling specially at Herne Hill in each direction.

Streatham Hill and London Bridge service cancelled.

Passengers for Carshalton, Hackbridge, and Mitcham Junction from London Bridge travelled *via* Sutton.

A special bus service was in operation between London Bridge and East Dulwich, calling at intermediate stations.

With one exception (mentioned below) these services were in operation until early in the morning of the fifth day when the engineers gave up possession of the up and down Central Section (former L.B.S.C.R.) lines so that normal business services could be run between 5 and 10 a.m. and between 4 and 7 p.m. This meant that a normal service was in operation between these hours, but outside of them reversion was made to the emergency services mentioned above. The exception was that after three days the South London line service operating between Victoria and Peckham Rye was terminated at Denmark Hill instead of Peckham Rye, as the lines between Peckham Rye Station and Cow Lane Bridge was occupied by the Engineer's Department material trains, for it was at this time that the bridge was being demolished.

The next stage occurred nine days after the incident, when the Central Section lines remained open to traffic after 7 p.m. On the following day the down Catford Loop Line was re-opened for goods traffic at noon, and both down and up lines for electric and steam trains the same afternoon.

In less than ten days, therefore, a most intricate suburban service was again in full operation. It was felt that the heavy suburban peak services should be restored as quickly as possible, and, to achieve this, the Engineer gave up possession of the Central Section lines during the business hour periods.

Looking Forward — (*Concluded from page* 426)

America uses saloon cars exclusively, but in Europe compartment coaches form the great majority of passenger vehicles. Of late, saloon cars have increased in numbers in this country. Incidentally the Pullman car, in its British manifestation, considered as a luxury train, retained its saloon form; also the Blue Trains and Golden Arrows were saloon car trains.

In future passenger rail travel will demand far greater comfort than hitherto. Comfort lies not only in seats—it involves conditions of lighting, colour, noise, cleanliness, smoothness of running and good ventilation.

To "revamp" old stock is expensive and unsatisfactory. Wherever rolling stock has been built to advanced designs, new traffic has been attracted, present traffic retained, and old traffic recovered. I, for one, have no doubt of our future, whatever form it may take. Open minds, hard work, imagination, perseverance, and, above all, railway sense —all these are resources native to this country. Let us use them.

L.P.T.B. "Pay-As-You-Board" Experimental Bus

The new centre-entrance bus specially designed for "Pay-As-You-Board" service. The cash register and ticket-issuing machine, which is arranged on a small counter facing the centre-entrance door, is shown in detail in the right-hand view. This bus went into experimental service on Route 65 between Ealing and Hook on October 25. We made brief reference to the experiment in our issue of October 20, page 391

Flying Bomb Damage to Cow Lane Bridge, Peckham Rye, Southern Railway

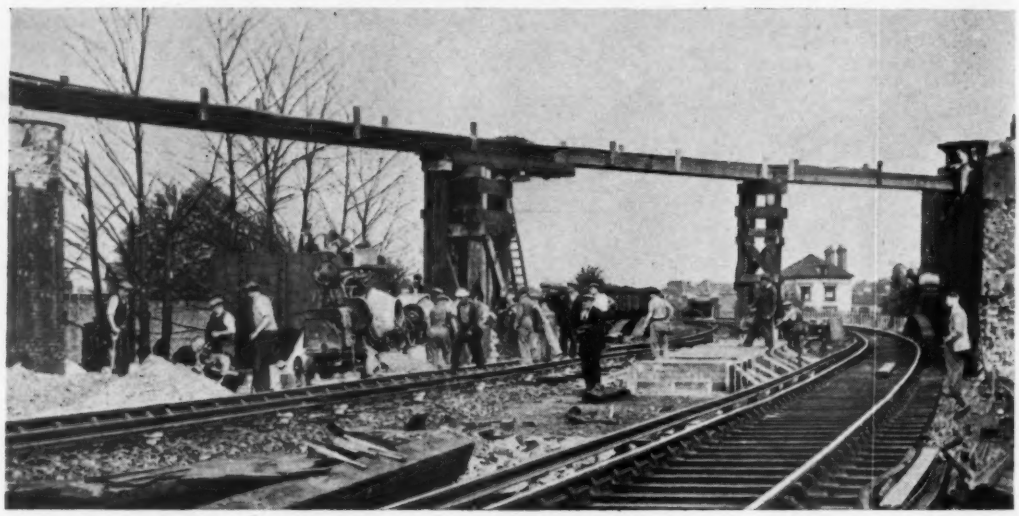
(See page 427)

Displacement of girder from bearing after the fall of a flying bomb close to the down line which passes under Cow Lane Bridge, Peckham Rye, Southern Railway. The view shows the girder supported on the sole remaining column

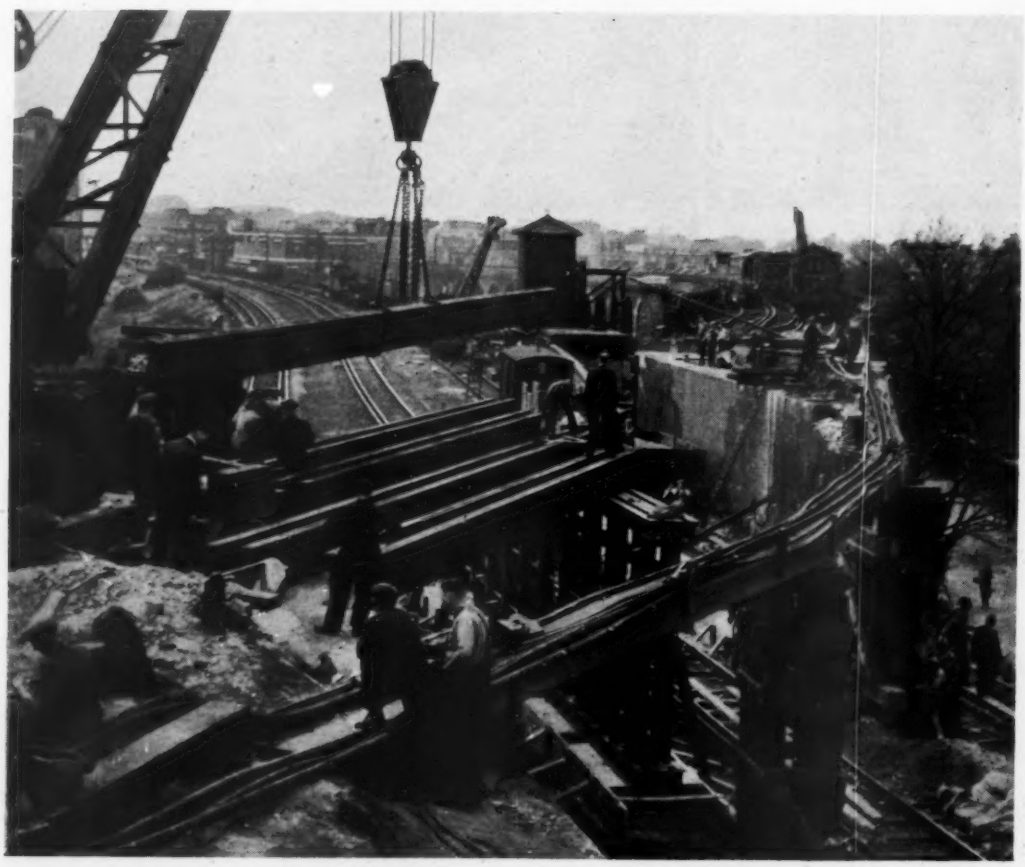
View of bridge after sole remaining column had been destroyed by charges placed by the Royal Engineers. This was only partly successful, as one girder at one end of the bridge did not fall clear of the abutment, as had been hoped

Temporary Cable Support and Erection of Temporary Bridge

(See page 427)



Temporary support for the high-tension cables, a timber bridge in three spans on trestles



Three-span temporary bridge in course of erection on military type trestling. The wooden trough carrying high-tension cables may be seen on the right

RAILWAY NEWS SECTION

PERSONAL

Sir William Fraser, C.B.E., has been elected a Director of the Great Western Railway Company. He is Chairman of the Anglo-Iranian Oil Co. Ltd. and subsidiary companies.

The King has appointed Sir Bertie Munroe Staig to succeed Sir Cameron Badenoch as Auditor-General of India, from April 10, 1945. Sir Bertie Staig is a former Financial Commissioner of Railways, Indian Railway Board.

We regret to record the death on October 21, while on active service, of Lt.-Colonel E. A. St. J. Cartmell, M.I.Mech.E., lately Controller of Stores, Sudan Railways.

At a meeting of the General Managers' Conference in the Irish Railway Clearing House, Dublin, Mr. E. C. Bredin, General Manager, Great Southern Railways, was elected Chairman of the conference for 1945.

The Minister of Supply announces that Mr. Cecil Bentham has been released, at his own request, from his executive responsibilities as Deputy Controller-General of Machine Tools, but that his experience will continue to be available in the position of Honorary Adviser to the Head of the Department.

L.N.E.R. Retirements

Mr. D. Sayer, Locomotive Accountant, Southern Area, has retired.

The retirement is announced also of Mr. C. J. Gregory, M.B.E., Stationmaster, Liverpool Street.

Sir Allan Grant is retiring from the Managing Directorship of Thos. Firth & John Brown Limited, but will remain a Director. Sir Arthur Matthews has been appointed Managing Director. Mr. Eric Mensforth has been elected a Director and appointed Deputy Managing Director. Sir Holberry Mensforth has retired from the board.

Institution of Locomotive Engineers

The following have been elected Members of the Institution of Locomotive Engineers:—Mr. George Cecil Brinkworth, General Manager, Gloucester Railway Carriage & Wagon Co. Ltd.; Mr. Gideon Johannes Krige, Locomotive Superintendent, East London, South African Railways & Harbours; Lt.-Colonel Edgar Ronald Mills, C.O., No. 3 Railway Workshop Group, Royal Engineers; and Mr. Robert Edward Nelson, Carriage & Wagon Superintendent, Nigerian Railway. The undernamed nave been transferred from Associate Membership to Membership of the Institution:—Major P. Rajnath, Indian Engineers, Works Manager, Khargpur, Bengal-Nagpur Railway; Lt.-Colonel Christopher Roland Longman Rice, C.O. of Railway Operating Group, Royal Engineers; and Mr. William Venner, Chief Mechanical Engineer, Sierra Leone Railway.

Mr. William Alfred Pickwoad, O.B.E., M.Inst.T., General Manager (Bolivian Section), Antofagasta (Chili) & Bolivia Railway, who, as recorded in our October 6 issue, has been appointed General Manager of the Central Argentine Railway, was born on May 24, 1886, and was educated at Bedford Modern School. In 1904 he joined the Administration of the Great Western of Brazil Railway, and was transferred in 1907 to the Traffic Department, where he worked at first in the Central Office, and later on station and train inspection. Subsequently he was appointed Divisional Superintendent in Alagoas, where he was in charge of traffic working and represented the company in all State Government affairs. During the war of 1914-18, Mr. Pickwoad joined H.M. Forces; he obtained a commission in the Royal Engineers in 1916, and was on the Northern and Southern Command headquarters staffs before taking his company to France. He was demobilised with the rank of Captain, and in 1919 returned to the Great Western of Brazil Railway as Divisional Superintendent. In the next year he resigned from that company's service, on accepting the appointment of Assistant Traffic Manager with the Antofagasta & Bolivia Railway, at Antofagasta. In 1924 he was promoted to the position of Traffic Manager of the Bolivian Section, of which three years later he was made Assistant General Manager. In 1929 he became General Manager (Bolivian Section). Mr. Pickwoad holds the Bolivian Government decorations of Gran Oficial Condor de los Andes and Comendador de la Orden del Mérito Militar, and is an Officer of the Order of the Southern Cross, Brazil. He is a founding Director of the Central Bank, and President of the Banco Mercantil, National Cement Company and Portillo Perez Prado, all of Bolivia.

Mr. W. A. Pickwoad

Appointed General Manager, Central Argentine Railway

Major R. K. Hubbard, O.B.E., who was Assistant General Manager, Central Argentine Railway, and who was appointed Acting General Manager after the death of Mr. D. M. MacRae in September, 1943, has been appointed Deputy General Manager.

Indian Railway Staff Changes

Mr. G. C. Assheton-Smith, Deputy General Manager (Recruiting), N.W.R., is leaving that railway shortly, and will take up the position of General Manager, Barsi Light Railway, in succession to Mr. A. T. Pegge, who is retiring.

Mr. C. G. Graham has been confirmed permanently as Chief Engineer, G.I.P.R.

Mr. E. M. Egan, lately Deputy Chief Commercial Manager, N.W.R., has been appointed Divisional Superintendent, Rawalpindi.

Mr. F. M. Khan, the Khan of Shews, has been appointed Deputy Chief Commercial Manager, N.W.R.

Sir Frank Smith has been appointed Chairman of the Road Research Board of the Department of Scientific & Industrial Research, in succession to the late Sir Clement Hindley.

The British Employers' Confederation has elected Commander Sir Charles Craven President for the current year in succession to Sir Harry F. Brand.

Mr. John Frederick Melling has been appointed a Director of the Projectile & Engineering Co. Ltd.

G.W.R. Appointment

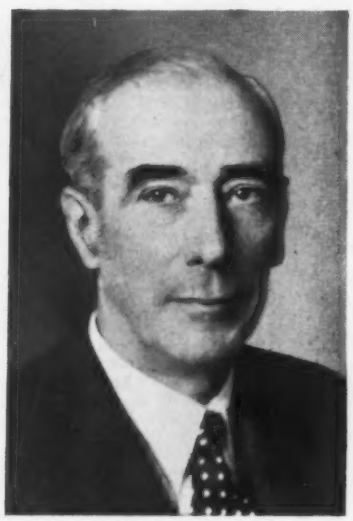
The Great Western Railway announces that Mr. A. C. Stockwell, Head of Section, Chief Goods Manager's Office (General), Paddington, has been appointed Assistant District Goods Manager, Newport, from November 1.

The Hon. J. K. Weir has been appointed Managing Director of G. & J. Weir Limited. Mr. A. H. Laidlaw has been appointed a Director of the company in charge of sales and contracts. Mr. John Davidson has been appointed Secretary, in place of Mr. J. D. Imrie, who has resigned that office for health reasons, but whose services are being retained by the company.

A recent wireless report from Paris, stated that Monsieur Dorge, formerly Chief Engineer of the Isere Department had been appointed Director-General of Railways & Transport in France.

Mr. E. G. Poole, Tourist Representative, Canadian National Railways, has been appointed General Tourist & Convention Agent in succession to Mr. M. E. Doke, recently appointed General Passenger Agent, Montreal.

Mr. C. Phizackerley, Assistant (Freight Services), Chief Operating Manager's Office, Watford, H.Q., L.M.S.R., who, as recorded in our October 20 issue, has been appointed Divisional Superintendent of Operation, Derby, joined the former L.N.W.R. as a probationer. Since the war of 1914-18 he has occupied the positions of Assistant District Traffic Superintendent, Swansea; District Controller, Liverpool; and Divisional Controller (Passenger Services), and later Assistant Divisional Superintendent of Operation, at Crewe. In 1935 he was appointed Assistant (Freight Services) to the Chief Operating Manager at Euston, which position he now vacates on his appointment as Divisional Superintendent of Operation, Derby.



Mr. C. Phizackerley

Appointed Divisional Superintendent of Operation, Derby, L.M.S.R.

Monsieur Ernest Rongvaux has been appointed Minister of Communications in the newly-formed Belgian Cabinet. M. Rongvaux, who was born in 1881, entered the Telegraph Service as a clerk in 1901 and worked through all grades to the position of Director of Administration, Department of Telegraphs & Telephones. He has been an active member of the " underground " movement in his country during the German occupation, and was deprived of his office by the Germans last May for these activities. He relinquished his Civil Service appointment on taking office under the new Government.

Mr. J. W. Watkins, D.S.O., M.C., M.Inst.T., Divisional Superintendent of Operation (Midland Division), Derby, L.M.S.R., who, as recorded in our October 20 issue, has been appointed Divisional Superintendent of Operation (Western Division), Crewe, entered the service of the former Midland Railway on April 1, 1905, as a junior clerk at Ashchurch, and served at several stations until he joined the ranks of the Gloucestershire Regiment on August 31, 1914, proceeding overseas in March, 1915. He subsequently received a commission in the field and was posted to the 2nd Battalion, Lancashire Fusiliers, serving with that regiment until May, 1918, and rising to the rank of Lt.-Colonel in command of the battalion. He was awarded the D.S.O. and the M.C., and was mentioned in dispatches four times. He was wounded in May, 1918, and, after recovering, served in England until leaving the Army with the rank of Lt.-Colonel in July, 1919. Upon his return from Army service, Mr. Watkins was posted to the headquarters staff of the former Midland Railway, dealing particularly with staff matters, and continued in the same position under the grouping. In 1929 he was appointed Assistant (Outdoor Section), Chief General Superintendent's Office, and in January, 1932, he was appointed Assistant Divisional Superintendent of Operation, Derby. In June, 1935, consequent upon the merging of the traffic and motive-power responsibilities under the Divisional Superintendent of Operation, his designation was changed to Assistant Divisional Superintendent of Operation (Traffic). He was appointed Assistant Divisional Superintendent of Operation, Derby, in 1937, and Divisional Superintendent of Operation, Derby, in December, 1942. Mr. Watkins comes of a family associated with the railway service for a number of years, his father having served for 50 years with the former Midland Railway Company.

Mr. J. W. Watkins

Appointed Divisional Superintendent of Operation, Crewe, L.M.S.R.

Mr. G. J. Aston, District Controller, Patricroft, L.M.S.R., who, as recorded in our October 20 issue, has been appointed Divisional Controller (Passenger Services), Office of Divisional Superintendent of Operation, Derby, was educated at Christ's Hospital and Queen's College, Oxford. He received general training with the L.M.S.R. in various departments in Liverpool, Chester, Preston, Manchester, and Derby Districts. In September, 1935, he was appointed Runner to Divisional Superintendent of Operation, Derby, and in 1937 was engaged on special work in connection with the general revision of the Midland Division passenger services. His subsequent appointments were:—Acting Assistant District Controller, Leicester, March, 1938; Assistant District Controller, Toton, July, 1938; Headquarters Inspector, Freight Services, Office of Divisional Superintendent of Operation, Derby, November, 1940; and Assistant Divisional Controller (Passenger Services), Office of Divisional Superintendent of Operation, Derby, May, 1941. Mr. Aston was appointed District Controller, Patricroft, in March, 1943; from July to September last he was Acting District Controller, Willesden, in place of Mr. Shelton (who last June was appointed District Goods, Passenger & Docks Manager, Barrow), and in the continued absence of Mr. Picknell.

Mr. G. J. Aston

Appointed Divisional Controller (Passenger Services), Derby, L.M.S.R.

L.M.S.R. Appointments

Mr. L. S. Kettle to be Assistant District Goods Manager, Manchester, *vice* Mr. A. H. Myers, retiring.

Mr. E. W. H. Powell, Goods Agent, Liverpool Road, Manchester, to be Assistant District Goods Manager, Wolverhampton, *vice* Mr. P. L. Gold, retiring.

Mr. J. S. Nicholson, Stationmaster & Goods Agent, Normanton, to be Stationmaster, Huddersfield, *vice* Mr. J. J. Davies, retiring.

Mr. J. L. Hadfield, Stationmaster, Stafford, to be Stationmaster & Goods Agent, Normanton.

Mr. H. V. Varcoe, Stationmaster & Goods Agent, Market Harborough, to be Stationmaster, Stafford (also supervising L.N.E.R. Passenger Department interests at Stafford Town and Stafford Common Stations).

Mr. N. Brassington, Stationmaster & Goods Agent, Sandbach, to be Stationmaster & Goods Agent, Market Harborough.

Mr. T. E. Bell, Head Office Inspector, Crewe, to be Yardmaster, Garston, *vice* Mr. H. W. Hing, retired.

Mr. W. S. Hughes, Assistant Stationmaster, Holyhead, succeeds Mr. H. Leach as District Traffic Agent, Whitehaven.

Mr. G. Jackson, Goods Agent, Tamworth, to be Goods Agent, Tipton, *vice* Mr. H. Frost, retiring.

TRANSPORT SERVICES AND THE WAR—266

Letters to France

Every day, including Sundays, a special train of mails for the British Liberation Army, is run by the L.M.S.R.

Prisoners and Sugar Beet Traffic

It is estimated that at least 10,000 prisoners, mainly Italian but including a fair sprinkling of Germans, will assist to lift this season's sugar beet crop, which is expected to provide the whole of the nation's sugar ration. The L.N.E.R. has made preparation for record forwardings, especially in the Norfolk district, where a quarter of the total yield is grown.

Last season the L.N.E.R. dealt with well over 1,000,000 tons, and placed nearly 130,000 wagons at the disposal of the sugar beet growers.

Return of Evacuees

The Minister of Health has now asked local authorities to make arrangements for the return home, in organised parties, of approximately 30,000 unaccompanied children evacuated with Government help. This is the second stage of the Government plan for the gradual return of evacuees whose homes are in the North and West of England, the Midlands and Wales. Evacuees whose homes are in Greater London and Southern and Eastern England are not affected by these arrangements. For them the Government warning still holds good that they should not return at present.

The first stage, announced on September 26, covered the return of adults and mothers with children, and preliminary reports received by the Ministry show that the scheme for their homecoming with the aid of free travel vouchers is now well advanced. For the unaccompanied children covered by this second stage, special rail or road transport and escorts are being provided. Classes excluded for the time being include parties of handicapped children, under-fives in nurseries and supervised billets, and children in secondary or technical or camp schools evacuated as units which now have no school premises in their home areas.

Labour in the Bus Industry

On a number of occasions recently the suggestion has been ventilated that the development of the war situation is such that an increase in public road passenger services is overdue, and that an increased fuel ration should be allocated to bus undertakings in order that such additional services might be operated. This question has received much attention by the Public Transport Association, representing the operators of more than 41,000 public passenger vehicles out of the total of some 60,000 such vehicles in Great Britain. The Association has collected from its members statistics which have shown conclusively that, unless steps are taken immediately by the appropriate Government Departments to provide additional staffs for road passenger transport undertakings, it will be impossible for existing services to be maintained during the coming winter, and no increase in present services will be possible.

At September 20, undertakings operating a total of 33,373 vehicles needed additional staffs to the extent of 1,229 drivers, 2,005 conductors, and 1,227 maintenance men to operate existing scheduled services. The number of employees directed to the industry by the Ministry of Labour is not, in fact, even sufficient to compensate for the numbers of employees leaving the industry, and a position which was already alarming is thus being allowed to worsen. The serious position has been raised continuously by the Public Transport Association with the Ministry of War Transport and the Ministry of Labour & National Service, and in the last few days the association has again issued a warning that unless steps are taken immediately to assure to the industry the personnel necessary for the operation and maintenance of vehicles, a breakdown in public road passenger transport services during the coming winter is possible. The association has reminded the Ministry of War Transport that the responsibility for such a breakdown could not rest on operators, who have repeatedly presented their case to that Department.

The Dutch Rail Strike

On the morning of September 18, in response to a radio broadcast by the Prime Minister of the Netherlands, the Dutch railwaymen went on strike and paralysed the transport system of Holland. Some 30,000 men are said to be involved. We recorded this briefly in our October 20 issue, page 386. Since then the conflict between the Germans and the Dutch railwaymen has become a grim battle. The Germans first tried conciliation and promised coal from Germany, but this had no effect. Double rations and double pay were then offered to the Utrecht railwaymen, as well as a general amnesty, but only four men are stated to have offered their services to the Germans. Reprisals and oppression followed; many arrests have been made, strikers shot, and their homes burned. Nothing has broken the strike, however.

Marshalling Yards in France

Marshalling yards in France suffered so severely that 15 out of the 19 principal centres require reconstruction. The great marshalling yard at Vaires in the Eastern region, where an automatic system of shunting was in operation, is now nothing but a mass of twisted rails, wrecked wagons, torn-up lighting pylons, and bombed shunting cabins. Two thousand Allied bombs fell on the yard and smashed 1,800 wagons, but the wreckage was not due solely to the bombs. Before leaving, the Germans dynamited the rolling stock, the pointmen's cabins, and water towers. After liberation, 2,000 men were put to work clearing the yard, but they were handicapped in having no cranes to lift wagons. Even in present circumstances, some time must elapse before the marshalling yards of France are restored to working condition.

Travel to France

We briefly recorded last week that civilians wishing to travel to the part of France which has been declared an "interior zone" no longer require military permits, but only exit permits and French visas. Most of France is now regarded as an "interior zone" under the Government of General De Gaulle's administration, which, on October 23, was recognised as the Provisional Government of France by Great Britain, the British Dominions, the U.S.A., and the U.S.S.R.

In practice, however, travel to France is still confined to priority travellers. No sea transport for civilians is at present available; and the only air service is the regular daily air service operated by R.A.F. Transport Command which the Air Ministry announced on September 22 as now running between London and Paris for the conveyance of approved military traffic.

For the time being, therefore, applications for exit permits by persons wishing to travel to France can be considered only in cases in which the journey is certified by the competent Government Department as being on urgent business of national importance. Prospective travellers should not apply to the Passport and Permit Office for exit permits until so advised by the Government Department concerned. The grant of an exit permit and visa will not necessarily mean that transport will be available immediately.

No applications can be entertained from persons wishing to travel to that part of France which is still an operational zone.

Moscow-Helsinki Air Line

It was reported from Moscow on October 23 that a Moscow-Helsinki air line had been begun.

Motorcar Travel Zoning in South Africa

A system of zoning motorcar travel, by which no one may drive more than 75 miles from his home without a permit from the Petrol Control Authorities, is being introduced in the Union of South Africa.

Through Railway Service in Free China

Through passenger and goods service was established on April 4, 1944, between Liuchow and Tushan on the Kweichow-Kwangsi Railway in Free China. The programme for the replacement by steel bridges of some 19 temporary bridges on the Hunan-Kwangsi Railway had been completed, states the Chinese press.

Canadian Hospital Cars

Six air-conditioned hospital cars are to be delivered to the Royal Canadian Army Medical Corps by the Canadian Pacific Railway from the Angus Shops, Montreal. They will bring to 10 the total of these hospitals on wheels provided by the C.P.R., for four hospital cars already are in operation. Each of the six cars, now being converted from compartment-observation cars, will have 28 beds.

Special Trains for Presidential Candidates

By an authorisation dated July 29, the Office of Defense Transportation of the United States has relaxed its Order No. 24 prohibiting the running of special passenger trains, sections of trains, or cars, in favour of any candidates "duly nominated" for the office of President or Vice-President of the United States, by any political party. Special trains or cars might be operated between July 30 and November 10, if for the exclusive use of such candidates.

U.S.A. Steel Rail Supplies

Hopes that American railways might this year receive better supplies of steel rails than in previous war years, and thus recover some of their arrears of maintenance—the effect of which on main-line tracks is all the more serious in consequence of the unprecedented increase of traffic—seem not destined to be realised. A total for all railways of well over 2,000,000 tons was aimed at, but not more than 1,800,000 tons is likely to be the figure reached, although this is considerably above the 1,540,000 tons obtained in 1943. For the third quarter of 1944, the Office of Defense Transportation had asked for 550,000 tons, and the War Production Board had allocated 500,000 tons, but the latter figure was later cut to 400,000 tons, and the allocation for the fourth quarter may be even less. In an endeavour to ease the difficult situation, the railways are being canvassed to discover if they have on hand any supplies of serviceable second-hand rail, which could be used for relaying on lengths of track of minor importance, so leaving the limited supplies of new rail for the more important main-line locations.

XUM

The Southern Approach to Germany

The railways of Austria and neighbouring territories, showing the international frontiers immediately before the Anschluss. The lines in Austria, and the progress of electrification, are revised in accordance with the latest information available in Great Britain in October, 1944. It will be noticed that electrification has just been completed to Villach, to improve the Tauern route, which is the best alternative to the Brenner route available to Germany

Railway Benefit Scheme in Eire

The Great Southern Railways Company has introduced a scheme to provide benefits for employees on the regular wages staff on and from August 1. Hitherto there was no pensions scheme for the wages staff on a contributory basis, but small *ex gratia* pensions were granted on retirement, and were reduced by the amount of Old Age Pension when the pensioner reached 70 years of age. In the case of sickness the company did not make any payment, and the only provision that existed was through the National Health Insurance of the Government of Eire or through voluntary membership of benefit societies. The new scheme provides the following benefits, for employees on the regular wages staff of the company whose applications for membership are accepted by the company :—

(1) Pensions
(2) Life assurance
(3) Sickness payments
(4) Early retirement benefit
(5) Medical and hospital treatment
(6) Mortality grants.

The employees will contribute towards meeting part of the cost of providing pensions. The company will pay the balance of that cost and, in addition, will bear the whole cost of providing life assurance, sickness payments, early retirement benefit, medical and hospital treatment, and mortality grants.

While the Directors expect that the company will continue to make the substantial payments required for these benefits the right is reserved, in the event of unforeseen circumstances, to discontinue or amend them subject to three months' notice being given to the employees. Any such amendment or discontinuance will not affect in any way :—

(1) The pension scheme ;
(2) Pensions already being paid to ex-employees ; and
(3) Benefits already secured for employees by the payments made by the company up to the date of amendment or discontinuance.

The Pension Scheme

For the pension scheme, the following employees on the regular wages staff of the company whose applications for membership have been accepted by the company are members :—

Employees both male and female who on the commencing date were between the ages of 20 and 50 next birthday.

Employees over 50 years of age on the commencing date and whose service with the company is sufficient to show that, were they to remain with the company until normal pension age, they would have each a minimum of 20 years of service.

Employees under 19 years of age who are otherwise eligible will enter the scheme on attainment of that age.

It is a condition of employment that all eligible employees engaged after the commencing date become members of the scheme on their appointment.

Male members, on retiring at the age of 65, may by notice in writing to the company exercise one of the following options :—

(*a*) For payment of a pension of £1 a week for life ; or
(*b*) For payment of a pension of 30s. a week for a period of five years, thereafter reducing to 12s. a week for the remainder of his lifetime ; or
(*c*) For payment of a pension of 37s. 6d. a week for a period of five years, thereafter reducing to 6s. a week for the remainder of his lifetime.

Female members, on retiring at the age of 60, may exercise one of the following options :—

(*a*) For payment of a pension of 10s. a week for life ; or
(*b*) For payment of a pension of 13s. a week for a period of ten years, thereafter reducing to 6s. a week for the remainder of her lifetime.

In the event of the death of a pensioner before five years' payments have been made, the pension will be continued to his personal representative so as to ensure a minimum total pension payable of £260 in the case of males and £130 in the case of females.

Should a member of the scheme receive promotion into a grade which is covered by the scheme for the clerical and supervisory staffs, then a special arrangement will be made concerning the contributions he has made while in this scheme.

A member with a minimum service of twenty years, who leaves the company for any reason within ten years before normal pension age, shall be eligible to receive a reduced pension to take effect from the date of retirement, calculated as follows :—The proportion of £1 (10s. in the case of a female member) represented by the number of years of service to the number of years of possible service at normal pension age.

In the event of the death of a pensioner in receipt of a reduced pension before five years' payments have been made, the pension will be continued to his personal representative for the remainder of that period.

In the event of a member leaving the service of the company without having been given a pension, a refund of his contributions will be made, without interest. Should, however, the member be in debt to the company on leaving, the company may exercise the right of lien upon his contributions against such debt.

If a member temporarily leaves the service of the company on account of redundancy, or for service with the National Forces during an emergency, the company may, on his re-employment, and provided such member pays up all arrears of contributions, regard his service as continuous.

In the event of the death of a member while in the service of the company before retiral on pension, a return of the whole of his contributions, without interest, will be made to his personal representative.

Members will contribute to the cost of the scheme as follows : (*a*) Males, 1s. a week ; (*b*) females, 6d. a week. The contributions are deducted each week from the member's wages or sickness benefit. The company will bear the balance of the cost of this scheme.

Endowment Assurance Scheme

Male employees on the regular wages staff of the company whose applications for participation have been accepted and who, on the commencing date of the scheme, are between the ages of 20 and 50 next birthday, constitute the membership of the endowment assurance scheme.

Employees under 19 years of age who are otherwise eligible will enter the scheme on the August 1 next after their attainment of that age.

Employees engaged after the commencing date will, if eligible, enter the scheme on the August 1 next after their appointment.

Eligible employees who, on the commencing date, were absent from work owing to illness, enter the scheme on return to work after having been certified by the company's doctor.

Each employee will be covered for a life assurance of £100 while in the company's service. On retirement at age 65 an employee can exercise one of the following options :—

(*a*) Receive payment of £100 cash ; or
(*b*) Take a whole life fully-paid assurance for £125 payable on his death. No evidence of health would be required.

In the event of an employee leaving the service of the company for any reason before reaching the age of 65, the company has the right to receive any surrender value in respect of the assurance, or to deal with it otherwise as the company may think fit.

The scheme is being effected by assurance with the Irish Assurance Co. Ltd., and each employee will be given a certificate stating that his name has been registered with that company, and that he is entitled to the benefit under the policy of assurance.

The assurance cover excludes the risk of death arising directly or indirectly as a result of war, or through engaging in aviation except as a fare-paying passenger.

Sickness Benefit

Employees both male and female on the regular wages staff of the company whose applications for participation have been accepted are eligible for sickness benefit. Employees in receipt of a weekly wage from the company will receive benefit in accordance with the following scale :—

	Weekly Wage	Weekly rate of benefit
(*a*)	£5 0s. 0d. or over	55s.
(*b*)	£2 18s. 0d. or over and less than £5 0s. 0d.	35s.
(*c*)	£2 0s. 0d. or over and less than £2 18s. 0d.	15s.
(*d*)	£1 10s. 0d. or over and less than £2 0s. 0d.	7s. 6d.

(*e*) Less than £1 10s. 0d., then : (1) if the employee qualifies for maximum benefit from the National Health Insurance Society (*i.e.*, men 15s., women 12s.), nil ; (2) if the employee does not qualify for full benefit, such sums as the company may decide, each case to be considered on its merits.

In calculating the rate of benefit, an emergency bonus payable to an employee is not regarded as forming part of his weekly wage.

For the purpose of the foregoing, a week corresponds to the working week of the employee concerned, and the rate of payment for any day is based on the number of hours normally worked on that day related to the total hours worked by the employee in a normal week. Consequently, no sickness benefit can be paid for the day corresponding to the employee's rest day.

In every case the benefit begins on the first complete day of sickness and continues for a period not exceeding 26 weeks.

When an employee is unable, owing to illness, to continue at his work he must notify his superior officer immediately.

Should the company's doctor be satisfied that the employee is unable to continue at his work by reason of illness, the doctor shall forthwith issue a certificate to that effect.

Payment of the benefit will be made only on foot of a certificate from the company's doctor.

Before an employee can return to work after being absent owing to illness, he must be certified fit by the company's doctor.

Should an employee who resumes work after being in receipt of sickness benefit again become ill within a period of six months from the date of his final certificate, and again apply for sickness benefit, his illness, for the purpose of calculating the maximum amount of benefit to which he is entitled and which is six months in every twelve months, shall be deemed to be a continuation of his previous illness, and he shall be paid on that basis.

If an employee should find it necessary, owing to sudden illness, to enter a hospital without first seeing the company's doctor, he shall be entitled to sickness benefit should the company's doctor issue a certificate after consultation with the hospital doctor.

The expression "company's doctor" includes his deputy or assistant, his duly authorised *locum tenens*, or a district medical officer of the company.

The company may refuse to allow sickness benefit in respect of any sickness caused by any act by which an employee voluntarily risks his health or physical welfare.

No benefit will accrue for any period of illness covered by the whole or any part of an employee's annual holidays.

No benefit will accrue to an employee for any illness in respect of which he receives an allowance or award under the Workmen's Compensation Act.

Should an employee be a member of any society or body, excluding the National Health Insurance Society, as a result of which membership he receives a benefit while ill, he shall be debarred automatically from this scheme.

EARLY RETIREMENT BENEFIT

An employee, male or female, on the regular wages staff who has been absent through illness and in receipt of sickness benefit for a continuous period, or a period which is deemed under the conditions applying to sickness benefit to be continuous, of 26 weeks, will be given a gratuity of a sum equal to one week's pay for each completed year of service.

An employee may elect to remain in the employment of the company by taking his gratuity in the form of weekly sickness benefit at his appropriate rate under the scheme until the amount of the gratuity is exhausted. As soon, however, as the employee has accepted (*a*) his lump sum gratuity, or (*b*) the final instalment of his gratuity in the form of sickness benefit, his employment with the company will cease.

An employee whose service has been so terminated, and whose medical condition becomes such that he will be fit to resume duty, may be reinstated as a new entrant if a vacancy occurs.

An employee can receive only one such gratuity during his service with the company. Should he take the gratuity in the form of sickness benefit and return to work before it is exhausted, the unexpired portion shall become payable should he again be absent owing to illness for a continuous period of 26 weeks.

In the event of the death of an employee while receiving his gratuity in the form of sickness benefit, the unexpired portion will be paid to his personal representative.

An employee who qualifies for the above benefit and is also eligible to receive a reduced pension under the pension scheme has the option of taking one or the other, but he cannot receive both benefits.

MEDICAL AND HOSPITAL TREATMENT

Employees, both male and female, on the regular wages staff of the company, whose applications for participation have been accepted, are eligible for medical and hospital treatment.

Employees, and their wives and children under 16 years of age, will receive free medical treatment, excluding maternity and cost of medicine.

Employees requiring in-patient or out-patient hospital treatment, will be admitted to, or attend the company's hospitals free of charge

The company's medical officers will endeavour to arrange for employees' wives and children under 16 years of age, requiring in-patient or out-patient treatment, to be admitted to (or attend) the nearest or most convenient hospital, but the company cannot accept responsibility for any hospital charges incurred.

Pharmacies are being arranged in certain centres at which the prescriptions of a medical officer of the company will be compounded at a uniform charge of 1s. a prescription for employees, and for their wives and children under 16 years.

MORTALITY GRANT

Employees, both male and female, on the regular wages staff of the company, whose applications for participation have been accepted, will come within the scope of the mortality grant. The sum of £10 will be paid for burial purposes to (*a*) an employee on the death of his wife, and (*b*) the personal representative on the death of a female employee. The application for the grant must be made within seven days from the date of death, and a certificate of death signed by the Registrar of Deaths must be produced before payment can be made.

Questions in Parliament

Railways and Air Lines

Mr. F. G. Bowles (Nuneaton—Lab.) on October 25 asked the Parliamentary Secretary, Ministry of War Transport, what resources the railway companies had which would be sufficient to face the loss that would fall upon those companies if they ran airlines; and what was the source from which such resources were derived.

Mr. Noel-Baker: The railway companies' Air Transport Acts of 1929 authorise the companies to use their funds for air services, and would permit the use of undisturbed profits to meet any (initial) loss in which the provision of such services might result.

Mr. Bowles: Will the Parliamentary Secretary tell the House what these reserves amount to, because on October 12, in the House of Lords, a certain Noble Lord referred to these reserves as being quite capable of sustaining losses over many years, if the railway companies chose to run air lines?

Mr. Noel-Baker: I will not commit myself to the figure now, but if Mr. Bowles will look at the figures of the published accounts of the railway companies, he will see that they have large funds for this purpose.

Mr. Bowles: Then, why should they rely on Government funds?

Sir Oliver Simmonds (Birmingham, Duddeston—C.): Is not the question based on a wrong hypothesis, and is it not the case that private air lines, through their efficiency, are run at a profit and that it is State air lines that are run at a loss?

The Speaker: I think that that is another question.

Thos. Cook & Son Ltd.

Mr. F. G. Bowles (Nuneaton—Lab.) on October 25 asked the Parliamentary Secretary, Ministry of War Transport, in what circumstances the railway companies became the owners of Thos. Cook & Son Ltd.

Mr. P. J. Noel-Baker (Parliamentary Secretary, Ministry of War Transport): In 1940 the share capital of Thos. Cook & Son Ltd. passed to the Custodian of Enemy Property. After negotiations, the Custodian sold the share capital to Hay's Wharf Cartage Co. Ltd. (a subsidiary of the four main-line railway companies). The purpose of the agreement was to carry on the business of Thos. Cook & Son Ltd. as a going concern under British control. The railway companies (Thos. Cook & Son Ltd. Guarantee) Act 1942 authorised the railway companies to give guarantees and to make the other financial arrangements which were required.

Mr. G. R. Strauss (Lambeth, North—Lab): Were the shares of Thos. Cook & Son Ltd. offered to anybody else? Were they put on the market, or was there direct negotiation? Did anybody else have an opportunity to buy those shares?

Mr. Noel-Baker: I would like notice of that question. I am afraid I do not know the exact facts.

Sir Frank Sanderson (Ealing—C.): Is it not a fact that this is a matter entirely between Thos. Cook & Son Ltd. and the railway companies interested?

There were cries of "No, no" from several Members.

Mr. Noel-Baker: No, it belongs to the Custodian of Enemy Property.

Sunday Services on the Underground

Commander Stephen King-Hall (Ormskirk—Ind.) on October 18 asked the Parliamentary Secretary, Ministry of War Transport, why on Sunday, October 8, no underground services were running on the London system before 8 a.m.

Mr. Noel-Baker in a written answer stated: In May, 1940, so as to carry workers engaged in war production, arrangements were made for the Sunday train services of the London Passenger Transport Board to begin about an hour and a half earlier than before. This earlier operation has placed a heavy strain on the train crews and on the station staffs of the Board. Consultations with the local transport groups have shown that, generally, these earlier trains are required no longer for workers, and it was accordingly agreed that, as from October 2, the starting times of services should revert to the hours that were in force before the special emergency arrangements had been made. There are, however, certain exceptions to this new rule, in which earlier local services are being run, and consideration is being given, in the light of experience, to the provision of earlier services at certain other points where they appear to be necessary.

Revenue Charges for Zambesi Bridge

Colonel A. M. Lyons (Leicester, East—C.) on October 19 asked the Secretary of State for the Colonies, what charges against revenue had been incurred by the Nyasaland Government during each of the past three financial years for interest and/or guarantees in respect of railways and the Zambesi Bridge; and whether arrangements had yet been made to release this Colony in future from all such hampering liabilities with a view to an acceleration of its needful social and economic development.

Colonel Oliver Stanley (Secretary of State for the Colonies) in a written answer stated: The charges falling to be met from Government funds to which Colonel Lyons refers, are met by a free grant from His Majesty's Government, which in the three years ended December 31, 1943, amounted on an average to £159,000 a year. The second part of the question therefore does not arise.

Lighting Restrictions in Buses

Mr. J. D. Murray (Spennymoor—Lab.) on October 11 asked the Secretary of State for the Home Department if he would now consider the question of removing the severe lighting restrictions imposed in buses used by the travelling public; and if, in view of the splendid service rendered by drivers and conductors during the last five years, and the great strain they had been compelled to endure, and the recent changes in the military situation, he would treat this matter as one of urgency.

Mr. Osbert Peake (Under Secretary of State for Home Affairs) stated in a written answer: The amount of lighting allowed in buses was increased last year to a standard which was considered adequate to

enable passengers to read with reasonable comfort, and was applied to the whole country except for certain coastal areas. This standard compares favourably with the relaxations which since have been allowed in other classes of lighting and the Home Secretary is afraid that the complete removal of restrictions as suggested in the question is not practicable at the moment.

Use of Canals

Mr. A. E. L. Chorlton (Bury—C.) on October 18 asked the Parliamentary Secretary, Ministry of War Transport, whether he was aware that lengths of canal were still little used; and if he was satisfied that one power barge a week made sufficient use of this cheap way of transport.

Mr. Noel-Baker in a written answer stated: If Mr. Chorlton will let me have particulars about the lengths of canal which he has in mind, I will enquire whether the traffic could be increased usefully.

Motor Vehicles

Sir Herbert Williams (Croydon, South—C.) on October 18 asked the Parliamentary, Secretary, Ministry of War Transport, if he would state the purpose of the Motor Vehicles (Authorisation of Special Types) No. 2 Order, 1944 (S.R. & O. No. 1105 of 1944); and whether these vehicles were likely to cause danger to pedestrians and other vehicles.

Mr. Noel-Baker stated in a written answer: This order allows the Petroleum Board to use vehicles specially designed for fuelling aircraft, although the vehicles do not comply in all regards with the regulations in force. I am satisfied that the use of these vehicles is required; there are not many of them, and, in view of the circumstances in which they operate, I think they cause no undue danger to other users of the road.

Prestwick Airport

Lt.-Colonel Sir Thomas Moore (Ayr Burghs—C.) on October 24 asked the Secretary of State for Scotland if he now could state what reply he had given, or the action he had taken, concerning the memorandum he had received from the Scottish Council of Industry on the subject of retaining Prestwick airport as a post-war Atlantic terminal.

Mr. T. Johnston (Secretary of State for Scotland): I received last week the submission referred to and I am giving it careful consideration so as to bring the arguments and claims in favour of Prestwick to the notice of the Minister for Civil Aviation and other ministers concerned.

Used Machine Tool Supplies in Scotland

Major Lloyd asked the Minister of Supply whether he was aware of complaints from members of the used machine tool industry in Scotland over the difficulties and delays in securing permits to obtain used machine tools, which were often in urgent demand; and whether anything was being done to improve the present position, which was causing dissatisfaction to those concerned.

Sir Andrew Duncan: I am not aware of any general difficulties in the issue of licences. If my hon. and gallant friend will kindly give me details of any particular cases he has in mind I shall be glad to look into them.

Major Lloyd: Does my right hon. friend realise that there is the greatest indignation among members of the used machine tool industry in Scotland, and that his reply will cause great surprise? Will he give me an assurance that an impartial investigation will be made by the Ministry of Supply into the many complaints against the Machine Tool Control in Scotland?

Sir A. Duncan: I am very surprised to hear that there have been these complaints. I have not heard of any except in one case, which is a special case on its own, and if the hon. and gallant member has any further cases I shall be glad to have them.

Mr. Austin Hopkinson: Will direct application from users be accepted, or have they to apply to the merchants?

Sir A. Duncan: That is another question, and I shall look into it.

TREVITHICK'S COTTAGE.—The cottage at Penponds of the famous Cornish engineer, Richard Trevithick, is to be taken over by the newly-formed Cornwall Engines Preservation Society and preserved as an historic building. This was announced at the recent annual meeting of the Federation of Old Cornwall Societies.

L.N.E.R. Claims-Prevention Campaign

The railway companies have to pay heavily for traffic lost or damaged during transit, and a certain proportion of claims may be caused indirectly by thoughtlessness, or forgetfulness, on the part of the staff concerned in the acceptance and handling of traffic. In order to remind the staff of the various ways in which they can help to prevent claims, the L.N.E.R. is launching a small poster campaign, and posters will be exhibited inside parcels offices, guards' and porters' rooms, mess-rooms, etc., to appeal to staff dealing with passenger train merchandise traffic, such as clerks, porters, guards, and van drivers.

Each poster illustrates an exhortation to avoid a common failure. For example, one deals with the acceptance of parcels with conflicting labels; another with parcels badly packed when presented for carriage; and a third with insufficient labelling of fragile packages. The posters measure only 15 in. by 10 in. (a convenient size for the walls of staff rooms) but, as they are attractively designed and printed in bright colours, they command attention.

The series of six, of which we reproduce three, has been produced by the Advertising Manager of the L.N.E.R., in conjunction with the Passenger Managers and Chiefs of Police, after joint research. It is hoped that, by appealing to good sense and enlisting the co-operation of the staff addressed, the campaign will have the effect of reducing the number of claims which, on passenger train traffic alone during 1943, cost the L.N.E.R. more than £150,000.

IF IT'S FRAGILE, GLASS, OR LIVE STOCK ALWAYS ADD A SPECIAL LABEL
FRAGILE
IN 1943 THE L·N·E·R PAID
OVER £150,000
FOR CLAIMS ON PASSENGER TRAIN TRAFFIC
LNER
LOAD SENSIBLY— HEAVY ARTICLES AT THE BOTTOM. HANDLE CAREFULLY
J.B 761
Not like this!
IN 1943 THE L·N·E·R PAID
OVER £150,000
FOR CLAIMS ON PASSENGER TRAIN TRAFFIC
LNER
IF THEY'VE LOST THEIR ADDRESSES SEND THEM TO THE L.P. DEPOT AFTER 48 HOURS
They found me here six months ago!
I've been here 3 weeks without address
IN 1943 THE L·N·E·R PAID
OVER £150,000
FOR CLAIMS ON PASSENGER TRAIN TRAFFIC
LNER

Three of the posters issued by the L.N.E.R. in its claims-prevention campaign

Egyptian Delta Light Railways Limited

The Hon. W. B. L. Barrington, Chairman, presiding at the annual general meeting of the Egyptian Light Railways Limited on October 25, said that the results for the year ended March 31, 1944, continued to show satisfactory improvement. Receipts from both goods and passengers showed substantial increases over the previous year, and the increases were continuing. The virtual non-existence of road competition was still the main reason for the improvement, although assisted, to some extent, by further increases in rates and fares. He understood that the Egyptian Government had appointed a committee to study the organisation of the various bus companies and the scope of their operations. Steps had been taken to put before this committee evidence in support of the contention that this company had the right to priority in operating bus services on all routes alongside its lines. The Ministry of Communications had indicated its acquiescence in this principle.

When the railway concession was granted, nearly 50 years ago, the possibilities of competition by road transport could not have been foreseen, and with the heavy maintenance and upkeep cost of the company's track it would be grossly unfair if road competitors, relieved of such charges, were again allowed to take the most profitable part of the railway traffic. This company held half the capital of the United Bus Company, which ran buses in the eastern section, and the other half was held by Egyptians who also were equally represented on that board. It also was interested in the Behera and Gharbieh Bus Company, which ran buses in those districts. These companies were fully capable of any expansion necessary to serve the needs of the public, after taking into account the railway services provided.

During the year certain labour legislation had been passed in Egypt with the object of improving the conditions and working hours of the staff. Details of this legislation were voluminous and had involved some fundamental changes in the present arrangements necessitating the drawing up of new standing orders, etc. Every effort had been made to give full effect to the spirit of the new regulations compatible with the efficient working of the railway.

With reference to the proportion of profits payable to the Egyptian Government, it had been agreed for a further period of two years, ending March 31, 1945, to allow the company 70 per cent. for working expenses before arriving at the Government's share of profits (as against 64 per cent. provided for in the concession), on the condition that the company set aside in each of these two years at least £E.50,000 for deferred repairs and replacements. This was of considerable assistance, but it was felt that the company should not be called upon to pay both the ordinary Egyptian taxation plus taxation in a special form under the terms of the concession.

The report and accounts were adopted.

WASTE PAPER SALVAGE.—Every endeavour should be made to salvage waste paper and to exercise the utmost economy in the use of paper generally. Paper is a vital war material and its conservation is a matter of national importance.

Notes and News

Diesel Engineer Required.—A large manufacturing firm requires an engineer with experience in diesel-electric rail traction. For particulars see our Official Notices on page 439.

Gifts for Merchant Seamen.—The directors of Thomas Hunter Limited, Rugby, railway wagon builders, have sent £100 to the Merchant Navy Comforts Service.

Southern Railway Hop-Picking Traffic.—During the 1944 hop-picking season just ended, the Southern Railway ran 300 special trains to and from the Kent hop-fields, for hop-pickers and their week-end friends. Altogether more than 150,000 persons were carried.

Agreed Charges.—Applications for the approval of 68 more agreed charges under the provisions of Section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Railway Rates Tribunal. Notices of objection must be filed with the Deputy Registrar of the Tribunal on or before November 14.

Rhodesia Railways Earnings.—Approximate gross receipts of the Rhodesia Railways Limited for the month of August, 1944, were £551,160, and for the eleven months ended August 31, 1944, were £5,922,966, as compared with £545,678 and £5,547,520, respectively, for the corresponding periods in the previous year. The number of miles open was 2,442.

Laycock Holdings Limited.—At an extraordinary general meeting of this company held at the registered offices, Victoria Works, Millhouses, Sheffield, on October 10, the following special resolution was duly passed :—" That the company be wound up voluntarily, and that Herbert Edward Hill, Chartered Accountant, of 552-555, Salisbury House, London Wall, E.C.2, be appointed Liquidator of the company."

The Brush Company in South Africa.—The Brush Electrical Engineering Co. Ltd., of Loughborough, has established a subsidiary company in South Africa under the title of Brush (South Africa) (Pty.) Limited, P.O. Box 7995, 20, Bitcon Road, Johannesburg. Initially this subsidiary will build buses and coaches and certain electrical equipment in South Africa, and will handle the sale of the following products of the parent company in the Union : turbo-alternators, transformers, switchgear, motors, generators, traction equipment, diesel-electric locomotives, and battery-electric vehicles and trucks. It will also superintend the distribution of Petter oil, paraffin, and petrol engines in the Union.

Driver's Death in Bomb Crater.—The Court of Appeal on October 27 unanimously allowed the appeal from the decision of Mr. Justice Charles in a case arising out of the death of an L.N.E.R. engine-driver (Mr. Greenfield) who was killed through his engine falling into a crater made by an enemy bomb. His widow claimed damages on the ground of negligence, which was admitted. In the Court below the judge had held that no damages were recoverable from the company, on the ground that the death was due to " war injuries " within the meaning of the Personal Injuries (Emergency Provisions) Act, 1939, which provided for compensation out of public funds. If the Court of Appeal took a different view, he provisionally assessed the damages at £2,200. The Court of Appeal held that the injury did not come within the definition of " war injuries . . . caused by the impact on any person or property of any enemy aircraft," and agreed to the figure of £2,200 for damages.

The London-Liverpool Air Service.—It has now been announced that Railway Air Services Limited hopes to begin operations between Croydon and Liverpool about the middle of this month. The aircraft will leave Croydon at 9 a.m. and arrive at Liverpool at 10.45 a.m. The return trip will leave Liverpool at 2.45 p.m. and reach Croydon at 4.30 p.m. The outward service

British and Irish Railway Stocks and Shares

Stocks	Highest 1943	Lowest 1943	Prices Oct. 31, 1944	Prices Rise/Fall
G.W.R.				
Cons. Ord. ...	65¼	57⅞	58	—
5% Con. Pref. ...	120½	108	116½	—
5% Red. Pref. (1950)	110¼	106	105	—
5% Rt. Charge ...	137½	123½	131½	—
5% Cons. Guar. ...	135½	121 7/16	128½	—
4% Deb.	118	107½	115	—
4½% Deb.	119	109 3/16	115½	—
4½% Deb.	124½	116	121½	—
5% Deb.	138	127	133½	—
2½% Deb.	77	72½	74½	—
L.M.S.R.				
Ord.	34 13/16	28	30	—
4% Pref. (1923) ...	66½	58	59	— ½
4% Pref.	80¼	73	76½	—
5% Red. Pref. (1955)	105¾	102	103½	—
4% Guar.	107	98½	102½	+ ½
4% Deb.	109¾	103¼	106½	—
5% Red. Deb. (1952)	111¼	108	108¼xd	—
L.N.E.R.				
5% Pref. Ord. ...	12 7/16	7⅜	8¼	—
Def. Ord.	5⅛	3⅜	4	—
4% First Pref. ...	66½	57½	59	— ½
4% Second Pref. ...	36½	30¾	31	—
5% Red. Pref. (1955)	99⅜	93	98½	—
4% First Guar. ...	102¾	94	100½	—
4% Second Guar. ...	93½	85⅜	91½	—
3% Deb.	86⅜	78⅜	83½	—
4% Deb.	109 7/16	101⅜	106	—
5% Red. Deb. (1947)	106¼	102	102	—
4½% Sinking Fund Red. Deb.	108	103½	105½	—
SOUTHERN				
Pref. Ord.	80	72½	75½	—
Def. Ord.	26¾	20⅝	24¾	—
5% Pref.	119½	106⅝	115½	—
5% Red. Pref. (1964)	114	108½	113½	—
5% Guar. Pref. ...	136	122	128½	—
5% Red. Guar. Pref. (1957)	117	109¾	113½	—
4% Deb.	117½	106	114	—
5% Deb.	137	126	133	—
4% Red. Deb. (1962-67)	112	106½	109½	—
4% Red. Deb. (1970-80)	112	107	109½	—
FORTH BRIDGE				
4% Deb.	109	104⅞	104	—
4% Guar.	105	102½	102½	—
L.P.T.B.				
4½% "A"	125½	114	120½	—
5% "A"	133 7/16	123	130½	—
3% Guar. (1967-72)...	100¼	97	99	—
5% "B"	124	114	121½	—
"C"	72	53	68	—
MERSEY				
Ord.	34½	27	34	—
3% Perp. Pref. ...	68	59½	69	—
4% Perp. Deb. ...	104	102½	103	—
3% Perp. Deb. ...	83	78½	79	—
IRELAND*				
BELFAST & C.D.				
Ord.	9	6	9	—
G. NORTHERN				
Ord.	24½	16	28⅜	— 1 5/16
Pref.	—	—	46¼	+ 1¼
Guar.	—	—	65	—
Deb.	—	—	86	+ 1
G. SOUTHERN				
Ord.	30	9½	58	+ 1
Pref.	30	11	58⅝	+ 2⅛
Guar.	64	26½	74½	+ ½
Deb.	88⅛	51⅛	96	+ ⅛

*Latest available quotation

OFFICIAL NOTICES

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

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from Croydon will connect at Liverpool with an additional air service to Belfast leaving at 11 a.m. and arriving at Belfast at 12.30 p.m. Similarly, it will be possible to leave Belfast at 1 p.m. and arrive at Liverpool at 2.30 p.m., connecting with the Liverpool-London service arriving at Croydon at 4.30 p.m.

Cyclone Damage in Havana.—The United Railways of Havana have received cable advice concerning the extensive damage to the Habana area, resulting from a cyclone of intense force which swept the island of Cuba from 11 p.m. on October 17 to noon on October 18. Telegraphic communication was broken between Habana and Campo Florida on the Northern line, and throughout the Western and Southern lines. All passenger and goods services east of Matanzas and Union continued to be worked normally. Through passenger and goods services between Habana and Santiago de Cuba were resumed on October 19. Trains over the Western line to Pinar del Rio and Batabano, as well as over the Southern line to Cienfuegos, were resumed on October 20, with trains operating under restricted train orders by reason of broken communications in the affected zone.

Argentine Railways and the Government.—It has been officially announced from Buenos Aires that an agreement has been reached between the Government and Sir Montague Eddy, Chairman of the Buenos Ayres Great Southern Railway, and that it is considered satisfactory in local railway circles. A decree issued on October 30 extends until December 31, 1946, the increased tariffs granted in 1942 and 1943 for both British-owned and State-owned lines; an increase of 10 per cent. in freight rates is authorised as from December 1; wages of all railway workers are to be increased; retentions of wages not already repaid are to be returned before the end of the year; the State railways must establish uniform tariff rates with the company-owned lines.

Membership of Association of Consulting Engineers.—The Association of Consulting Engineers states that all corporate members of the Institutions of Civil, Mechanical, and Electrical Engineers, and of the Institution of Civil Engineers of Ireland, are now eligible for election to membership of the Association, provided that they are otherwise qualified. Formerly, corporate membership of the Institution of Civil Engineers was accepted, but full membership of the other Institutions was demanded. The other qualifications for membership of the Association are unaltered.

Contracts and Tenders

An order for 1,150 freight vehicles has been placed by the Canadian Pacific Railway, for delivery in 1945. It comprises 750 steel-sheath 50-ton box wagons (Canadian Car & Foundry Co. Ltd.); 200 50-ton overhead refrigerator vans (National Steel Car Corporation Limited); and 200 70-ton drop-end gondola wagons (Eastern Car Company).

First deliveries were made recently on an order for 2,140 freight vehicles placed by the C.P.R. last January.

Forthcoming Meetings

November 3 (*Fri.*).—Institute of Transport, in the Grand Hall, Connaught Rooms, Great Queen Street, W.C.2, 12.45 for 1.15 p.m. Silver jubilee luncheon.

November 3 (*Fri.*).—Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, 5.30 p.m. Extra general meeting: Applied Mechanics Group. Paper: "Stresses by analysis and experiment," by Professor A. J. Sutton Pippard.

November 6 (*Mon.*).—The Society of Engineers, in the apartments of the Geological Society, Burlington House, W., 5 p.m. Ordinary meeting. Lecture. "X-rays and the engineer," by W. R. Gray.

November 7 (*Tue.*).—Institution of Civil Engineers, Great George Street, Westminster, S.W.1, 5.30 p.m. Presidential address by Mr. F. E. Wentworth-Sheilds.

November 9 (*Thu.*).—Diesel Engine Users' Association, at Alliance Hall, Westminster, S.W.1, 2.30 p.m. "Some factors affecting internal-combustion engine lubrication," by Cecil C. Higgins (Member).

November 13 (*Mon.*).—Institute of Transport, at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2, 5.30 p.m. Presidential address by Mr. R. Kelso.

The Lord Mayor of London at Euston Station, L.M.S.R.

The Lord Mayor of London (Sir Frank Newson-Smith) and his daughter, the Lady Mayoress, in the cab of the L.M.S.R. locomotive No. 6245, "City of London"

Lord Royden, Chairman, London Midland & Scottish Railway Company, handing the Lord Mayor a framed picture of the locomotive (see paragraph in last week's issue)

Railway Stock Market

Tendency of stock markets has kept firm without any marked improvement in the volume of business, although investment demand continued an upward trend in British Funds, War Loan, Local Loans and Old Consols again improved. Brazilian bonds fluctuated sharply and showed a general decline on balance in the absence of support. French railway sterling bonds held all but a small part of recent gains, although the view is growing that some considerable time may have to elapse before interest payments can be resumed.

Home rails have been steady, but attracted less attention; subsequently the tendency was firmer, particularly in the case of preference stocks and also Southern preferred. Moreover, the rising trend in gilt-edged stocks, which naturally reduces yields on the latter, is tending to draw attention to the return on home railway prior charges. Argentine rails generally were steady with debenture stocks firmer on the assumption that the new Argentine Government decree may prove, in effect a satisfactory compromise, although it is difficult to assess how earnings of individual companies will be affected by the wages increase, accompanied as it is by raising of goods rates and by the decision that the State railways must establish uniform tariff rates with the British-owned lines. The steadiness of Argentine railway stocks was due in part to more hopeful views of the development of improved relations between the Argentine and the U.S.A.

Elsewhere, main attention centred on United of Havana 1906 debentures, which further improved on hopeful market estimates as to the basis of the expected capital scheme. It is being unofficially suggested in the market that holders of these debentures may be offered exchange into £30 nominal of a new 5 per cent. first mortgage debenture and also £50 nominal or more in a new income debenture stock, the latter being in respect of cancellation of interest arrears.

With the rise in British Funds and an upward tendency in leading industrials there is a disposition for more attention to be given to high-yielding securities, and iron and steel and also aircraft shares have been in better demand on yield considerations. It seems not unlikely that this tendency will be continued, and that it may increase and lead to bigger demand for home railway junior stocks, yields on which continue to be more generous than in any other section of markets, despite the fact that the dividend position is virtually guaranteed under the control agreement, which is expected to remain in force until at least 1946. It appears unlikely, however, that home rail stocks will move strongly until there is a return of buoyant conditions in markets; but the view is gaining ground that there seems no reason why prices should be below the best levels of a year ago, which would still leave the stocks valued on a high yield basis. It would appear that in most sections of markets, possibilities of capital appreciation are now definitely limited, but that satisfactory scope may still exist in home rails. Sentiment must, of course, be expected to be affected from time to time by indications of Government policy in regard to post-war transport problems. Similar factors will doubtless also affect sentiment in regard to many groups of industrial shares. Whatever the future, the railways must be kept in a state of full efficiency, and there is no reason to assume that railway stockholders will be treated unfairly.

Compared with a week ago, Great Western ordinary was fractionally lower at 57¾. L.M.S.R. ordinary at 29¾ was unchanged on balance, as was the senior preference at 76½, although the 1923 preference eased slightly to 58¾. L.N.E.R. second preference at 31¼ was the same as a week ago, with the first preference at 59 also unchanged on balance. Southern deferred at 24¾ was also well maintained, while the preferred strengthened to 75½.

Argentine railway ordinary and preference stocks eased slightly in some cases, but the debentures were generally firm. Elsewhere United of Havana 1906 debentures moved up further from 30½ to 32½, and Leopoldina debentures from 51½ to 55. Canadian Pacifics eased slightly to 14¾.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ending	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1942/3	No. of Weeks	Aggregate traffics to date: Totals 1943/4	Aggregate traffics to date: Totals 1942/3	Aggregate traffics to date: Increase or decrease	Shares or stock	Prices: Highest 1943	Prices: Lowest 1943	Prices: October 31, 1944	Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	22.10.44	30,210	– 410	42	1,222,040	1,209,900	+ 12,140	Ord. Stk.	15¾	10	10½	Nil
	Argentine North Eastern ...	753	21.10.44	16,356	+ 3,300	16	271,218	231,972	+ 39,246	,,	7⅞	5	4½	Nil
	Bolivar	174	Sept., 1944	5,238	– 518	39	47,755	47,669	+ 86	6 p.c. Deb.	22½	18	15½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	23¼	19	18½	Nil
	Buenos Ayres & Pacific ...	2,807	21.10.44	124,200	+ 17,100	16	1,842,360	1,475,400	+ 366,960	Ord. Stk.	8¼	5½	5½	Nil
	Buenos Ayres Great Southern	5,080	21.10.44	174,420	+ 9,480	16	2,631,120	2,423,640	+ 207,480	Ord. Stk.	17⅛	9½	12	Nil
	Buenos Ayres Western ...	1,924	21.10.44	79,560	+ 21,780	16	1,026,420	826,380	+ 200,040	,,	16	9⅝	10½	Nil
	Central Argentine	3,700	21.10.44	153,201	+ 4,122	16	2,739,069	2,195,652	+ 543,417	,,	10¾	6½	8½	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4⅝	3	4	Nil
	Cent. Uruguay of M. Video	972	21.10.44	27,455	– 5,635	16	482,330	512,272	– 29,942	Ord. Stk.	7⅜	4½	4½	Nil
	Costa Rica	262	Aug., 1944	24,993	– 663	9	53,315	48,907	+ 4,408	Stk.	16	12½	16	Nil
	Dorada	70	Sep., 1944	29,850	+ 5,190	39	237,415	196,807	+ 40,608	1 Mt. Deb.	96	92	100½	£5 19/5
	Entre Rios	808	21.10.44	20,682	+ 1,650	16	363,096	329,160	+ 33,936	Ord. Stk.	9	5½	5	Nil
	Great Western of Brazil ...	1,030	21.10.44	25,700	+ 2,600	42	894,400	677,400	+ 217,000	Ord. Sh.	59/9	24/4½	28/9	Nil
	International of Cl. Amer. ...	794	Aug. 1944	$528,904	– $11,492	35	$5,306,660	$5,025,556	+ $281,104	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	2¾	1⅛	1	Nil
	La Guaira & Caracas... ...	22½	Sept., 1944	7,036	– 999	39	71,331	76,460	– 5,129	5 p.c. Deb.	90	80	79	6¼
	Leopoldina	1,918	21.10.44	44,916	+ 6,046	42	1,976,424	1,457,550	+ 518,874	Ord. Stk.	7¾	4	5½	Nil
	Mexican	483	14.10.44	ps. 499,400	+ ps. 128,600	15	ps. 7,237,300	ps. 6,145,800	+ ps. 1,091,500	Ord. Stk.	1$_{32}$	⅜	⅛	Nil
	Midland Uruguay	319	Aug., 1944	16,470	+ 1,810	9	34,921	31,115	+ 3,806	—	—	—	—	—
	Nitrate	382	15.10.44	5,441	– 1,248	41	141,342	121,639	+ 19,703	Ord. Sh.	83/9	71/3	70/-	£3 11/5
	Paraguay Central	274	20.10.44	$60,104	+ $3,854	16	$933,130	$900,480	+ $32,650	Pr. Li. Stk.	75	51¼	72	8⅓
	Peruvian Corporation ...	1,059	Sept., 1944	129,927	+ 22,660	13	375,652	314,208	+ 61,444	Pref.	17⅞	10¾	9½	Nil
	Salvador	100	July, 1944	c 88,000	– c 20,000	4	c 88,000	c 108,000	– c 20,000	—	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	71	57	52	£3 16/11
	Taltal	156	Sep., 1944	2,705	– 4,470	13	8,240	16,905	– 8,665	Ord. Sh.	37/6	20/-	15/-	Nil
	United of Havana	1,301	21.10.44	26,864	– 21,731	16	763,586	803,249	– 39,663	Ord. Stk.	⅝	3¼	3¼	Nil
	Uruguay Northern	73	Aug., 1944	1,320	– 120	9	2,806	2,827	– 21	—	—	—	—	—
Canada	Canadian Pacific	17,018	21.10.44	1,220,200	+ 44,000	42	51,237,600	46,780,200	+ 4,457,400	Ord. Stk.	18	13⅞	14¾	6¼
India†	Barsi Light	202	Sep., 1944	20,820	+ 3,322	26	140,130	127,485	+ 12,645	Ord. Stk.	—	—	119	£3 15/4
	Bengal-Nagpur	3,267	Aug., 1944	1,202,400	+ 284,550	22	5,184,150	5,153,250	+ 30,900	Ord. Stk.	104½	101¼	—	—
	Madras & Southern Mahratta	2,939	Mar., 1944	358,125	– 7,925	52	10,447,866	8,913,924	+ 1,533,924	—	—	—	—	—
	South Indian	2,349	20.12.43	199,410	+ 24,449	37	5,321,558	4,562,445	+ 750,113	—	—	—	—	—
Various	Egyptian Delta	607	30.9.44	18,268	+ 4,297	26	327,721	257,924	+ 69,797	Prf. Sh.	6$_{16}$	2⅜	4½	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	45	32	61½	Nil
	Midland of W. Australia ...	277	Aug., 1944	20,875	– 15,324	9	40,053	70,424	– 30,371	Inc. Deb.	101	93	99½	£40/5
	Nigerian	1,900	29.7.44	281,567	– 17,671	4	—	—	—	—	—	—	—	—
	South Africa	13,291	9.9.44	875,655	+ 15,623	23	20,165,789	19,113,277	+ 1,052,512	—	—	—	—	—
	Victoria	4,774	April, 1944	1,188,999	– 212,162	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ⅛. Argentine traffics are given in sterling calculated @ 16⅔ pesos to the £
† Receipts are calculated @ 1s. 6d. to the rupee